Eric C. Larson

Director of Center for Biocomputational Sciences
Bobby B. Lyle Endowed Professor in Innovation
Associate Professor, Computer Science

SMU
Department of Computer Science
Lyle School of Engineering
Southern Methodist University

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Dallas, TX 75205

1 EDUCATION AND PROFESSIONAL EXPERIENCE

1.1 RESEARCH OVERVIEW

"The research students that I have had the privilege to advise are the reason my work has been successful. I am privileged to have been able to contribute in some small way to their success. Their dedication and commitment to their study, research, and search of new knowledge is what allows science to impact the lives of so many others. These students have advanced science, contributed to national interests, and helped shape the career path of other students."

Dr. Larson is the Bobby B. Lyle Endowed Professor in Engineering Innovation, an Altshuler Distinguished Teaching Professor, and Associate Professor in the Department of Computer Science at SMU with courtesy appointment in the Department of Operations Research and Engineering Management and in the Department Electrical and Computer Engineering. He joined SMU in August 2013 after he received his PhD from the University of Washington. He is a member of the Darwin Deason Institute for Cybersecurity, Institute of Computational Biosciences, SMU AT&T Center for Virtualization, and Academy of Distinguished Teachers. He is also a fellow of the Hunt Institute for Engineering Humanity. His research explores the interdisciplinary relationship of machine learning and signal/image processing with the fields of security, mobile health, education, chemistry, and human-computer interaction. Like most academics, he has a passion for teaching and mentoring, and views research as an ideal opportunity to instruct the next generation of computer scientists and engineers. He has positioned himself (*with plenty of help from others*) in a unique role, supporting different research applications via the integration of machine learning and sensing.

Dr. Larson has published numerous papers at top journals and conferences, one textbook, and three book chapters, garnering over 7,000 citations and eight best paper awards/nominations (**Google Scholar H-index of 37**). He has established grant funding for projects as PI and Co-PI with funding from a variety of sources including **private contracts and government agencies, in excess of $14.7M**. Dr. Larson has received federal grant funding from the National Science Foundation, National Institutes of Health, Department of Education, National Institutes for Standards and Technology, Department of Homeland Security, Office of Naval Research, United States Air Force, Army Research Labs, and US Army Combat Capabilities Development Command. Dr. Larson has also been supported by various private contracts, translating basic research into commercial advancements.

1.2 EDUCATION

2013	**Ph.D. in Electrical Engineering**, University of Washington, Seattle Area: Signal Processing and Ubiquitous Computing; Advisor: Dr. Shwetak Patel (*MacArthur Genius Fellow, ACM Prize in Computing*) Co-Advisor: Dr. Les Atlas (*Amazon Catalyst Fellow*) Committee: Dr. Mari Ostendorf, Dr. Xiaofeng Ren, Dr. James Fogarty, Dr. Karen Clark Topic: *Semi-Supervised Training for Infrastructure Mediated Sensing: Disaggregated Hot- and Cold-Water Sensing with Minimal Calibration*
2008	**Master of Science in Electrical Engineering**, Oklahoma State University, Stillwater Area: Image Processing and Digital Signal Processing Advisor: Dr. Damon Chandler Committee: Dr. Keith Teague, Dr. Gary Yen, Dr. Qi Cheng MS Thesis: *Predictive Image Quality: The Most Apparent Distortion*
2006	**Bachelor of Science in Electrical Engineering**, Oklahoma State University, Stillwater Area: Communications, Signals, and Controls *Summa Cum Laude*

1.3 PROFESSIONAL EXPERIENCE

2024-*present*	**Southern Methodist University**, Dallas, TX *Bobby B. Lyle Endowed Professor in Engineering Innovation*

2019-*present*	**Southern Methodist University**, Dallas, TX *Associate Professor with Tenure, Department of Computer Science*
2025-2026	**Southern Methodist University**, Dallas, TX *Interim Director, SMU Institute for Computational Bioscience*
2013-2019	**Southern Methodist University**, Dallas, TX *Assistant Professor, Department of Computer Science and Engineering*
2012-2015	**Belkin Conserve Unit,** Los Angeles, CA *Systems Consultant*: Machine Learning, Cloud Architecture, Firmware Design
2012-2013	**Intel Science and Technology Center**, Seattle WA *Student Research Assistant*
2009-2013	**University of Washington**, Electrical Engineering, Seattle, WA *Student Research Assistant*
2010 Summer	**Intel Research**, Seattle, WA *Research Intern* with Dr. Beverly Harrison
2007-2008	**Oklahoma State University**, Stillwater, OK *Student Research Assistant* with Dr. Damon Chandler
2006 Summer	**Garmin International**, Olathe, Kansas *Design Engineer Intern* for Consumer Electronics
2005 Summer	**Oklahoma State University**, Stillwater, OK *Undergraduate Researcher* (REU) with Dr. Keith Teague

2 MENTORING AND ADVISING

2.1 POST-DOCTORAL RESEARCHERS

Feb. 2017- Feb. 2018	**Pavel Klimovich**, *Cheminformatics tools for Ligand Fingerprinting* *Publications*: [J.07]

2.2 DOCTORAL STUDENTS SUPERVISED

2029 *expected*	**Morgan Mote**, (D.E.), Thesis: *TBD* *Publications*: Forthcoming *Timeline*: [*Start*: 2026], [*Quals*: TBD], [*Proposal*: TBD], [*Defense*: TBD]
2028 *expected*	**Mohsen Ensafdaran** (Co-advised with Dr. Barbara Minsker), (Ph.D.), Thesis: *TBD* *Publications*: Forthcoming *Timeline*: [*Start*: Aug. 2024], [*Quals*: TBD], [*Proposal*: TBD], [*Defense*: TBD]
2028 *expected*	**Michael Watts**, (Ph.D.), Thesis: *TBD* *Publications*: [C.78], [C.82] *Timeline*: [*Start*: 2024], [*Quals*: TBD], [*Proposal*: TBD], [*Defense*: TBD]
2027 *expected*	**Zhongjie Wu**, (Ph.D., Co-advised with Mehak Gupta), Thesis: *Weighted X-Vector Attention Models* *Publications*: [C.46], [J.28], [C.77] *Timeline*: [*Start*: 2022], [*Quals*: TBD], [*Proposal*: TBD], [*Defense*: TBD]
2027 *expected*	**Zhongdi (Ultron) Wu**, (Ph.D.), Topic: *Large Language Models in the Application of Vocabulary Acquisition* *Publications*: [C.46], [C.56], [J.26], [C.62], [J.39], [C.73], [C.86] *Timeline*: [*Start*: 2022], [*Quals/Proposal*: TBD], [*Defense*: TBD]
2027 *expected*	**Charles Sayre**, (Ph.D.), Topic: *Deep Anomaly Detection with Radiative Sensing* *Publications*: [C.57],[J.37] *Timeline*: [*Start*: 2022], [*Quals/Proposal*: TBD], [*Defense*: TBD]
2027 *expected*	**Yihao Wang**, (Ph.D.), Topic: *Multi-Modal Attention Methods for Sensors, Video, and Audio Processing* *Publications*: [J.20], [C.46], [J.22], [C.50], [J.28], [C.62], [C.73], [C.80] *Timeline*: [*Start*: 2021], [*Quals/Proposal*: TBD], [*Defense*: TBD]
2027 *expected*	**Matthew Lee**, (Ph.D.), Topic: *Modeling and Simulation in Machine Learning* *Publications*: [C.40], [C.42], [C.59], [C.60], [C.61], [C.75], [O.25] *Timeline*: [*Start*: 2022], [*Quals/Proposal*: TBD], [*Defense*: TBD]
2026 *expected*	**Ishna Satyarth**, (Co-advised with Dr. D. Matthews), (Ph.D.) Topic: *Machine Learning and Formal Methods in Quantum Chemistry: Theory and Applications* *Publications*: Forthcoming *Timeline*: [*Start*: 2022], [*Quals*: Feb. 2023], [*Proposal*: Jan. 2025], [*Defense*: TBD]

2026 *expected*	**Joshua Sylvester**, (Ph.D.), Topic: *Beyond Time Series Analysis: Extending Granger Causality for Clustering, Representation Learning, and Randomness Testing* *Publications*: [C.40], [C.42], [C.49], [C.59], [O.23], [C.60], [C.74], [J.38], [C.82], [C.83] *Timeline*: [*Start*: 2022], [*Quals/Proposal*: April 2025], [*Defense*: March 2026]
Dec. 2024	**Yasamin Fouzani**, (Ph.D.) Topic: *CMOS-Based Rotational Spectroscopy: Massive Spectral Fingerprint Generation for Enabling Automated Molecular Detection* *Publications*: [J.27], [J.X] *Current Position*: Lead Data Scientist, FedEx *Timeline*: [*Start*: 2019], [*Quals/Proposal*: 2022], [*Defense*: Dec. 2024]
Aug. 2024	**Clayton Harper**, (Ph.D.) Topic: *Differentiable Deep Model Parameterization* *Publications*: [C.33], [C.39], [C.60], [C.61], [J.29], [C.63], [C.64], [J.34], [C.79], [C.84] *Current Position:* AI Automation Engineer at Bedrock Technology *Timeline*: [*Start*: 2021], [*Quals/Proposal*: Dec. 2023], [*Defense*: Aug. 2024]
April 2024	**Juan Jose Rodriguez**, (DE, Co-advised with Frank Coyle) Topic: *Beyond the Horizon: Exploring Anomaly Detection Potentials with Federated Learning and Hybrid Transformers in Spacecraft Telemetry* *Publications*: Doctor of Engineering, Praxis *Timeline*: [*Start*: 2023], [*Quals/Proposal*: Aug. 2023], [*Defense*: April 2024]
Aug. 2021	**Raghuram Srinivas**, (Ph.D.) Topic: *CFGenNets: Collaborative Filtering Based Generative Networks.* *Publications*: [J.07], [J.18], *Current Position:* Lead Data Scientist at JPM Chase *Timeline*: [*Start*: 2017], [*Quals/Proposal*: Mar. 2021], [*Defense*: Aug. 2021]
Dec. 2020	**Xinyi Ding**, (Ph.D.) Topic: *Deep Neural Network based Student Response Modeling with Uncertainty, Multi-modality, and Attention* *Publications*: [J.06], [J.08], [J.10], [J.13], [J.14], [C.30], [C.31], [OP.09], [J.23], [J.24] *Current Position:* Assistant Professor (Tenure Track) at Gongshang University, China *Timeline*: [*Start*: 2017], [*Quals/Proposal*: Mar. 2020], [*Defense*: Dec. 2020]
Aug. 2020	**Justin (Chill) Wilson**, (Co-advised with Suku Nair), (Ph.D.) Topic: *Cognitive and Context Aware Computing: Towards a Situation-aware System with a Case Study in Aviation* *Publications*: [C.32] (*best paper*), [J.15], [J.16], [J.34] *Current Position*: ACCR Research Director, *Former Position*: Assistant Professor in Department of Computer and Cyber Sciences at United States Air Force Academy, Colorado *Timeline*: [*Start*: 2017], [*Quals/Proposal*: Dec. 2019], [*Defense*: Aug. 2020]
Dec. 2017	**Chatchai (Mark) Wangwiwattanna**, (Ph.D.) Dissertation: *RGB Image-based Pupillary Diameter Tracking with Deep Convolutional Neural Networks* *Publications*: [J.06], [C.24], [C.25], [OP.10] *Current Position*: Professor in School of Science and Technology and Associate Vice President of Information Technology at UTCC, Thailand *Timeline*: [*Start*: 2014], [*Quals/Proposal*: 2016], [*Defense*: Dec. 2017]
May 2015	**Sohail Rafiqi**, (Ph.D.) Dissertation: *PupilWare: Towards Cognitive and Context Aware Computing* *Publications*: [C.24], [C.25], *Current Position*: Analyst at Google Cloud, Specializing in Healthcare Applications *Timeline*: [*Start*: 2010], [*Quals/Proposal*: 2014], [*Defense*: Apr. 2015]

2.3 MASTERS' STUDENTS SUPERVISED WITH THESIS

May 2026 *expected*	**Gabriel Mongaras**, Thesis, "*A Unifying Representation for Attention in Transformers*". *Publications*: [C.70] (*best paper*), [J.36] *Current Position*: MS Student
Nov. 2024	**Max Tolan**, Thesis: *Using ChatGPT to Automate Cosmetic Procedure Planning* *Publications*: [O.22], *Current Position*: Data Scientist
Dec. 2021	**Joshua Sylvester**, (Co-advised with Dr. M. Hornbach) Thesis: *Developing IoT-based Geophysical Micro-observatories Utilizing Cloud Computing* *Publications*: : [C.40], [C.43], [C.49], *Current Position*: PhD Student with Dr. Larson
Dec. 2021	**Zhongdi (Ultron) Wu**, (Co-advised with Dr. G. Alford) Thesis: *Exploring Neural Networks for Predicting Sentinel-C Backscatter between Image Acquisitions* *Publications*: [C.46], [C.56], [J.26] *Current Position*: PhD Student with Dr. Larson
May 2018	**Travis Siems**, Thesis: *Understanding Natural Keyboard Typing Using Convolutional Neural Networks on Mobile Sensor Data* *Publications*: [J.09],[P.08], *Current Position*: Analyst at Toyota Connected

August 2016	**Spencer Kaiser**, Thesis: *Open Spirometry: portable, low-cost spirometry utilizing 3D-printed vortex whistles and smartphones*
	Publications: [B.03], [C.27],[P.07], *Current Position*: Analyst at American Airlines

2.4 UNDERGRADUATE RESEARCH STUDENTS ADVISED (THESIS/ENGAGED LEARNING)

May 2024	**Gabriel Mongaras,** Honors Thesis, "*Cottention: Linear Transformers with Cosine Attention: RNN Equivalence*" Passed with Distinction.
	Publications: [C.70] (*best paper*), [J.36]
May 2024	**Trevor Dohm,** Honors Thesis, "*Cottention: Linear Transformers with Cosine Attention: Experimental Design and Evaluation* " Passed with Distinction.
	Publications: [C.70] (*best paper*),
May 2023	**Elias Mann,** Honors Thesis, **(**Co-Advised with Dr. Michael Hahsler) "*Context Aware Music Recommendation and Playlist Generation*"
May 2021	**Sisi Kang**, *Engaged Learning*, Topic: *Child Computer Interaction Techniques in Audio-based Interfaces for English Language Learners in STEM*
	Publications: [OP.13], *Current Position*: Developer in AT&T Leadership Program
May 2016	**Ashley Parks**, *Engaged Learning*, Topic: *Calibration of Vortex Whistles for Ultra Low Cost Spirometry*
	Publications: [C.26],[P.07] *Current Position*: Analyst at Toyota Connected
May 2015	**Amanda Doyle**, *Engaged Learning and Undergraduate Honors Thesis*
	Honors Thesis: *Overcoming Barriers to Cervical Cancer Screening: Mobile Development*
	Publications: [J.10], *Current Position*: Leadership Program at GE
May 2015	**Kevin Donahoo**, *Engaged Learning and Undergraduate Honors Thesis*
	Honors Thesis: *Overcoming Barriers to Cervical Cancer Screening: Gesture Analytics*
	Publications: [J.10], *Current Position*: Analyst at AT&T
May 2015	**Nathan Hillis**, *Engaged Learning and Undergraduate Honors Thesis*
	Honors Thesis: *Overcoming Barriers to Cervical Cancer Screening: Image Analytics*
	Publications: [J.10]

3 HONORS AND AWARDS

2025	Courtesy Appointment in Department of Electrical and Computer Engineering
	Computing 2025 **Best Paper** Award Winner, London (*Senior Author, as Professor*)
	Data Driven Distributed Solar Visibility **Prize Winner**, (NREL), $25k Prize
2024	Appointed as **Bobby B. Lyle Endowed Professor** in Engineering Innovation
2023	Inducted as Member into the **SMU Academy of Distinguished Teachers**
	Altshuler Distinguished Teaching Award (*among all Tenured Faculty at University*)
2022	Courtesy Appointment in Department of Operations Research and Engineering Management
2021	Nominated for President's Associates Teaching Award (*among all Tenured Faculty*)
2020	IITSEC 2020 Platinum Overall **Best Paper** Award (*Senior Author, as Professor*)
2018	Senior Research Investigator, Darwin Deason Institute for Cybersecurity
2017	Fellow, Hunt Institute for Engineering and Humanity
2016	CHI 2016 **Best Paper** Award Nomination (*Supporting Author, as Professor*)
2015	SMU HOPE Professor of the Year, Honoring Our Professors of Excellence (HOPE)
2014	UbiComp 2014 **Best Paper** Award Nomination, Seattle, WA (*Senior Author, as Professor*)
2012	UW College of Engineering Student Research Innovator
	UbiComp 2012 **Best Paper** Award Nomination (*First Author, as Student*)
	Madrona Prize for Research Excellence and Commercial Appeal, UW CSE Affiliates 2012
	CHI 2012 **Best Paper** Award Nomination (*Supporting Author, as Student*)
	Intel Science and Technology Fellowship
2011	CHI 2011 **Best Paper** Award Nomination (*First Author, as Student*)
2010	Yang Research Award Finalist and Chair's Award for Outstanding Teaching Assistant
	Madrona Prize for Research Excellence and Commercial Appeal, UW CSE Affiliates 2010
2009	UbiComp 2009 **Best Paper** Award Nomination (*Supporting Author, as Student*)

# 4 SCHOLARLY ACTIVITIES: RESEARCH FUNDING AND PUBLICATIONS

4.1 SCHOLARLY PRODUCTIVITY SUMMARY

Funding Summary (Details in section 10):
Total Number of Awarded Projects: 55 (Median $95k, Avg: $264k, Range: $25k-$2.7M)
Total Funded Amount as PI: $ 5.5M
Associate Professor (June 2019 - *pres.*): $11.8M (10 Fed. agencies incl. NSF, ARL, DoD, NIH, USAF, DoEd)
Assistant Professor (2013 - May 2019): $ 2.8M (6 Federal agencies including DoD, NIH)

Publications Summary (Details in sections 11-13):
Total Peer Reviewed Publications: 125 (39 Journal Papers, 86 Conference Papers)
Other Research Publications: 26 (Workshop and ArXiv Papers)
Google H-Index: (*All Time*: 37, *Past Five Years*: 27)   **Citations**: 7,000+
Google Scholar Profile: https://scholar.google.com/citations?hl=en&user=vThE9GIAAAAJ
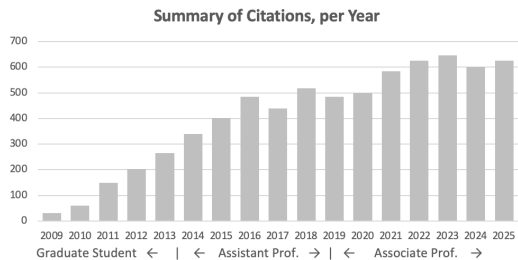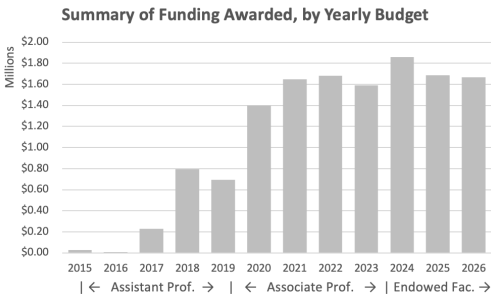
*Summary of Impact Factor	
Impact Factor	*# Pubs*
> 9	2
[7, 9)	5
[5, 7)	11
[3, 5)	28
[1, 3)	21

Impact is calculated as the IF during the year of publication and includes all journals and high-ranking conferences. In computer science, conference venues are often highly selective, archival publications with impact factors reported as if they were a journal.

4.2 EXTERNAL FUNDING AND SPONSORED RESEARCH

This section contains funding descriptions that are restricted by the International Traffic in Arms Regulations (ITAR). Other projects may be under NDA. As such, further information about the research may not be available.
Notes:
- **Additional grants and contracts (prior to promotion) are listed in the appendix of this document.**
- **I do NOT include unfunded grants/contracts in this list. All grants are awarded or pending award.**
- **Shading indicates active grants/contracts.**

Year		Detailed Information	Role and Share
2025	[EF.55]	* Army/DEVCOM-ARL *PI*: Mitch Thornton, *Co-PIs*: Duncan McFarlane, **Eric C. Larson** *Title*: "Cyber Autonomy Range Research at SMU, Digital Twins Vulnerability" *Amount*: $2.7M, *Duration*: September 2025—September 2028	Role: Co-PI Share: $650,000
2025	[EF.54]	*Joint NAVSEA and Raytheon Systems (Private Sponsored), *PI*: **Eric C. Larson**, *Co-PIs*: Mitch Thornton *Title*: "Phase II: Supporting Explainability and ML-Ops with Synaptic Intelligence Models" *Amount*: $40,000, *Duration*: March 2025—April 2026	Role: PI Share: $35,000
2025	[EF.53]	*Joint NAVSEA and Raytheon Systems (Private Sponsored), *PI*: **Eric C. Larson**, *Co-PIs*: Mitch Thornton *Title*: "Supporting Explainability and ML-Ops with Synaptic Intelligence Models" *Amount*: $40,000, *Duration*: March 2025—April 2025	Role: PI Share: $35,000
2025	[EF.52]	Goldman-Sachs (Private Sponsored) *PI*: Mitch Thornton, *Co-PIs*: **Eric C. Larson,** *Title*: "Remote Employee Insider Threat Detection, Phase 2" *Amount*: $250,000, *Duration*: January 2025—October 2025	Role: Co-PI Share: $110,000

2024	[EF.51] PI	*Raytheon Systems (Private Sponsored), *PI*: **Eric C. Larson**, *Co-PIs*: Mitch Thornton *Title*: "Autonomous Reconnaissance for ISR with AI (ARIA), Phase 2" *Amount*: $507,000, *Duration*: December 2024—Dec. 2026	Role: PI Share: $400,000
2024	[EF.50]	National Institute for Standards and Technology *PI*: Minsker, *Co-PIs*: J. Smith-Colin, B. Story, *Title*: "Improving Communities Through Smart and Resilient Infrastructure Investments" *Amount*: $963,000 (across many personnel), *Duration*: Oct. 2024 – Sep. 2027	Role: *Key Personnel Minor Role* Share: $96,000
2024	[EF.49] PI	*Raytheon Systems (Private Sponsored), *PI*: **Eric C. Larson**, *Co-PIs*: Joe Houpt (UTSA) *Title*: "Human Machine Teaming, Lucutio Phase I" *Amount*: $39,999, *Duration*: August 2024—December 2025	Role: PI Share: $39,999
2024	[EF.48] PI	*Raytheon Systems (Private Sponsored), *PI*: **Eric C. Larson**, *Co-PIs*: Mitch Thornton *Title*: "Autonomous Reconnaissance for ISR with AI (ARIA)" *Amount*: $49,997, *Duration*: August 2024—December 2024	Role: PI Share: $40,000
2024	[EF.47] PI	Unites States Air Force, AFWERX Small Business Technology Transfer Research Grant *SMU PI*: **Eric C. Larson**, *Small Business PI*: Joseph Artuso (COO of Open BCI) *Title*: "AFSOC Proposal: Galea Headset Convolutional Biometrics" *Amount*: $32,975, *Duration*: June 2024—September 2024	Role: PI Share: $32,975
2024	[EF.46]	National Science Foundation, CNS 2332339, NSF 22-529 Smart and Connected Communities *PI*: Barbara Minsker, *Co-PI*: **Eric C. Larson,** Janille Smith-Collin. Noshir Contractor, Chunk Su *Title*: "SCC-PG WECAN Smart Toolkit: Wellbeing Enhancement through Crowd-sourced Assessment of Neighborhood-infrastructure" *Amount*: $144,584, *Duration*: May 2024—May 2026	Role: Co-PI Share: $35,000
2024	[EF.45]	Department of Education, Education, Innovation and Research S411B230036 *PI*: Doris Baker, *Co-PI*: **Eric C. Larson,** Paul Toprac, Rachel Garrett *Title*: "Transforming the Learning of Science for Second Grade Latinx Students Through Meaningful Interactions using Technology Outside of School (Project MITOS)" *Amount*: $8,000,000 (**SMU Share**: $897,000), *Duration*: Jan. 2024—Dec. 2028	Role: Co-PI *SMU Sole PI* Share: $897,000
2023	[EF.44]	National Institutes of Health, R15-GM122013-02A1 *PI*: Peng Tao, *Co-PI*: **Eric C. Larson** *Title*: "Develop light- oxygen-voltage (VOD) sensing optogenetics tools through novel computational approaches with experimental validation" *Amount*: $444,523, *Duration*: June 2023—May 2026	Role: Co-PI Share: $100,000
2023	[EF.43] PI	*CAE USA, (Private Sponsored) *PI*: **Eric C. Larson** *Title*: "Phase IV: Human Performance Optimization using Biometric Indices" *Amount*: $91,980, *Duration*: August 2023—December 2024	Role: PI Share: $91,980
2023	[EF.42] PI	*Raytheon Systems (Private Sponsored) *PI*: **Eric C. Larson**, *Co-PIs*: Mitch Thornton *Title*: "RTX Applications of Artificial Intelligence to Defense Systems (RAAIDS) Maritime" *Amount*: $183,916, *Duration*: June 2023—August 2024	Role: PI Share: $130,000
2023	[EF.41] PI	University of Texas, Southwestern Medical Institute *PI*: **Eric C. Larson,** *Co-PIs*: None *Title*: "Phase III: Robotic Surgery Research" *Amount*: $23,760, *Duration*: June 2023—December 2023	Role: PI Share: $23,760

Year	Ref	Details	Role/Share
2023	[EF.40]	*AFWERX, Department of the Air Force and Anametric, Inc. *PI*: Mitch Thornton, *Co-PIs*: Duncan MacFarlane, **Eric C. Larson** *Title*: "Quantum Hybrid Physically Unclonable Function, Phase 2 Research" *Amount*: $454,329, *Duration*: February 2023—December 2026	Role: Co-PI Share: $100,000
2023	[EF.39] PI	*United States Air Force Academy, DOD *PI*: **Eric C. Larson**, *Co-PIs*: None *Title*: "Cognition-aware Computing Measurement via Biometric Sensing" *Amount*: $86,872, *Duration*: January 2023—June 2024	Role: PI Share: $86,872
2022	[EF.38] PI	University of Texas, Southwestern Medical Institute *PI*: **Eric C. Larson,** *Co-PIs*: None *Title*: "Phase II: Robotic Surgery Research" *Amount*: $23,760, *Duration*: August 2022—December 2022	Role: PI Share: $23,760
2022	[EF.37]	Goldman-Sachs (Private Sponsored) *PI*: Mitch Thornton, *Co-PIs*: **Eric C. Larson,** *Title*: "Remote Employee Insider Threat Detection" *Amount*: $250,000, *Duration*: August 2022—August 2023	Role: Co-PI Share: $100,000
2022	[EF.36] PI	*Raytheon Systems (Private Sponsored) *PI*: **Eric C. Larson**, *Co-PIs*: Mitch Thornton, Joseph Houpt *Title*: "Human Machine Teaming in Simulated High Load Environments" *Amount*: $100,000, *Duration*: June 2022—December 2022	Role: Co-PI Share: $70,000
2022	[EF.35] PI	*Raytheon Systems (Private Sponsored) *PI*: **Eric C. Larson**, *Co-PIs*: Mitch Thornton *Title*: "Guardian Angel Mobile Application (Phase II)" *Amount*: $40,000, *Duration*: June 2022—December 2022	Role: Co-PI Share: $20,000
2022	[EF.34] PI	*Raytheon Systems (Private Sponsored) *PI*: **Eric C. Larson**, *Co-PIs*: Mitch Thornton *Title*: "Phase 2: RTX Applications of Artificial Intelligence to Defense Systems (RAAIDS)" *Amount*: $365,000, *Duration*: January 2022—May 2023	Role: PI Share: $250,000
2021	[EF.33]	* Office of Naval Research *PI*: Mitch Thornton, *Co-PIs*: **Eric C. Larson** *Title*: "Research and Development of AI/ML Methods to Support Naval Logistics, Phase 3" *Amount*: $119,117, *Duration*: October 2021—October 2022	Role: Co-PI Share: $60,000
2021	[EF.32] PI	*Raytheon Systems (Private Sponsored) *PI*: **Eric C. Larson**, *Co-PIs*: Mitch Thornton *Title*: "*Applying Machine Learning for State Based Anomaly Detection on Embedded Communication Protocols*" *Amount*: $45,000, *Duration*: October 2021—March 2022	Role: PI Share: $25,000
2021	[EF.31] PI	*Raytheon Systems (Private Sponsored) *PI*: **Eric C. Larson**, *Co-PIs*: Mitch Thornton *Title*: "RAAIDS for Human Machine Teaming" *Amount*: $50,000, *Duration*: August 2021—December 2021	Role: PI Share: $40,000
2021	[EF.30] PI	*CAE USA, formerly L3Harris (Private Sponsored) *PI*: **Eric C. Larson**, *Co-PIs*: Suku Nair *Title*: "Phase IV: Human Performance Optimization using Biometric Indices" *Amount*: $69,042, *Duration*: June 2021—May 2022	Role: PI Share: $65,000
2021	[EF.29] PI	*Raytheon Systems (Private Sponsored) *PI*: **Eric C. Larson**, *Co-PIs*: Mitch Thornton *Title*: "User-based Authentication Methods with Mobile Device Latent Vectors" *Amount*: $40,000, *Duration*: June 2021—December 2021	Role: PI Share: $20,000
2021	[EF.28] PI	*Raytheon Systems (Private Sponsored) *PI*: **Eric C. Larson**, *Co-PIs*: Mitch Thornton *Title*: "RTX Applications of Artificial Intelligence to Defense Systems (RAAIDS)" *Amount*: $175,000, *Duration*: March 2021—December 2021	Role: PI Share: $130,000
2021	[EF.27]	*Raytheon Systems (Private Sponsored) *PI*: Mitch Thornton , *Co-PIs*: **Eric C. Larson**, Duncan MacFarlane *Title*: "Refinement and Development Activities for Innovative Security Solutions" *Amount*: $150,000, *Duration*: January 2021—December 2021	Role: Co-PI Share: $75,000

Year	Ref	Description	Role / Share
2021	[EF.26] PI	Intuitive Robotic Surgery *PI*: **Eric C. Larson**, *Co-PIs*: Jeffrey Gahan, Alaina Garbens *Title*: "Using a multi-task convolutional neural network to predict surgeon skill in robot assisted partial nephrectomy" *Amount*: $50,243, *Duration*: January 2021—May 2022	Role: PI Share: $45,000
2020	[EF.25]	Institute of Education Services *PI*: Joseph Nese (University of Oregon), *Co-PIs*: **Eric C. Larson**, Akihito Kamata, *Title*: "A Comprehensive Measure of Reading Fluency: Uniting and Scaling, Accuracy, Rate, and Prosody" *Amount*: $588,085, *Duration*: September 2020—June 2025	Role: Co-PI Share: $250,000
2020	[EF.24]	Toyota Connected (Private Sponsored) *PI*: Ping Gui, *Co-PIs*: **Eric C. Larson,** Mitch Thornton *Title*: "CAN Bus Packet Authentication Research" *Amount*: $306,391, *Duration*: May 2020—May 2022	Role: Co-PI Share: $30,000
2020	[EF.23] PI	*L3 Harris (Private Sponsored) *PI*: **Eric C. Larson**, *Co-PIs*: Suku Nair *Title*: "Phase III: Human Performance Optimization using Biometric Indices" *Amount*: $56,193, *Duration*: February 2020—October 2020	Role: PI Share: $50,000
2020	[EF.22]	Institute of Education Services *PI*: Doris Baker (University of Texas, Dallas), *Co-PIs*: **Eric C. Larson**, Akihito Kamata, C. Richards *Title*: "Project MELVA-S: IES Measurement" *Amount*: $1,399,977, *Duration*: July 2020—May 2025	Role: Co-PI Share: $600,000
2020	[EF.21]	*Raytheon Systems (Private Sponsored) *PI*: Mitch Thornton, *Co-PIs*: **Eric C. Larson** *Title*: "TAK as a Service" *Amount*: $19,990, *Duration*: April 2020—September 2020	Role: Co-PI Share: $9,000
2020	[EF.20] PI	University of Texas, Southwestern Medical Institute *PI*: **Eric C. Larson,** *Co-PIs*: None *Title*: "Robotic Surgery Research" *Amount*: $23,760, *Duration*: August 2020—December 2020	Role: PI Share: $23,760
2020	[EF.19] PI	*Raytheon Space and Airborne Systems (Private Sponsored) *PI*: **Eric C. Larson** , *Co-PIs*: Mitch Thornton *Title*: "Cyber Anomaly Detection from Serial Data Bus with Context Vectors" *Amount*: $75,490, *Duration*: May 2020—December 2020	Role: PI Share: $40,000
2020	[EF.18]	* Office of Naval Research *PI*: Mitch Thornton, *Co-PIs*: **Eric C. Larson** *Title*: "Research and Development of AI/ML Methods to Support Naval Logistics" *Amount*: $50,000, *Duration*: May 2020—May 2021	Role: Co-PI Share: $25,000
2019	[EF.17]	*Raytheon Information and Intelligence Systems (Private Sponsored) *PI*: Mitch Thornton, *Co-PIs*: **Eric C. Larson** *Title*: "Data Correlation Investigation to Identify Side Channel Indicators" *Amount*: $50,000, *Duration*: September 2019—March 2020	Role: Co-PI Share: $25,000
2019	[EF.16]	National Science Foundation *PI*: Corey Clark, *Co-PIs*: **Eric C. Larson,** Leanne Ketterlin-Geller *Title*: "STEM+C: Teaching Computer Science and Computational Thinking with Community Gaming" *Amount*: $1,521,616, *Duration*: September 2019—May 2025	Role: Co-PI Share: $500,000
2019	[EF.15] PI	*L3 Harris (Private Sponsored) *PI*: **Eric C. Larson**, *Co-PIs*: Suku Nair *Title*: "Human Performance Optimization using Biometric Indices and Gaze" *Amount*: $73,860, *Duration*: September 2019—December 2019	Role: PI Share: $70,000

==================Promotion to Associate Professor with Tenure==================
Funding as Assistant Professor: $2.7M (My Share: $1.25M)
Details on Grants/Contracts prior to promotion (EF.01 – EF.14) are available in the appendix at the end of this document.

4.3 INTERNAL OR SMU SEED FUNDING

2024	[IF.09] PI	O'Donnell Data Science and Research Computing Institute, FRAG *PI*: **Eric C. Larson** (PI for Mentoring, Idea from Dr. Gupta), *Co-PIs*: Mehak Gupta *Title*: "Fairness-aware Multimodal AI for Healthcare Data " *Amount*: $50,000, *Duration*: July 2024—June 2025
2022	[IF.08]	Dedman College Interdisciplinary Institute *PI*: Christopher Dolder, *Co-PIs*: **Eric C. Larson,** Eric Godat, Mike Porter, and Guillermo Vasquez *Title*: "Physical Data Capture Lab" *Amount*: $4,000, *Duration*: August 2022—May. 2023
2020	[IF.07]	Lyle School of Engineering Research Seed Funding *PI*: Paul Krueger, *Co-PIs*: **Eric C. Larson** *Title*: "Determination of Flow Generation Geometry Using Machine Learning" *Amount*: $31,680, *Duration*: August 2020—Dec. 2020
2019	[IF.06]	Lyle School of Engineering Research Seed Funding *PI*: Bruce Gnade, *Co-PIs*: **Eric C. Larson** *Title*: "Development of CMOS-based Rotational Spectroscopy" *Amount*: $30,900, *Duration*: April 2019—Dec. 2019
2018	[IF.05] PI	Lyle School of Engineering Research Seed Funding *PI*: **Eric C. Larson,** *Co-PIs*: Eli Olinick, Michael Hahsler, Paul Kruger *Title*: "Deep Convolutional Networks for Forgery Classification and Anomaly Detection " *Amount*: $21,120, *Duration*: May 2018—Dec. 2018
2017	[IF.04] PI	Office of Provost Special Seed Funding *PI*: **Eric C. Larson,** *Co-PIs*: Pavel Klimovich *Title*: "Binding Affinity Prediction via Collaborative Filtering with Latent Factors" *Amount*: $30,000, *Duration*: Aug. 2017—Feb. 2018
2017	[IF.03] PI	Just-in-Time Teaching and Technology Grants *PI*: **Eric C. Larson** *Title*: "Augmented Reality with CoreML iOS Development for CSE5323/CSE7323" *Amount*: $1,000, *Duration*: Aug. 2017—Dec. 2017
2014	[IF.02] PI	Lyle School of Engineering Research Seed Funding *PI*: **Eric C. Larson,** *Co-PI*: Joseph Camp *Title*: "Phone-as-a-Sensor Health Monitoring with Body Area Networks" *Amount*: $20,608, *Duration*: May 2014—Dec. 2014
2013	[IF.01] PI	SMU Laboratory Upgrade Grant *PI*: **Eric C. Larson** *Title*: "Laboratory Upgrades in Mobile Application Development, Embedded Mobile Sensing, and Peripheral Communication on a Mobile Device " *Amount*: $14,632, *Duration*: Dec. 2013—May 2014

4.4 BOOKS AND BOOK CHAPTERS

*   ==   Refers to Student Authors or Post-doctoral Researchers

2025	[B.04]	Z. Wolf,* M. Thornton, **E. C. Larson**, (2025). Data Exfiltration from Network-Isolated Virtual Computing Systems with Infrastructure Mediated Power Analysis. *Springer Nature Switzerland*. Book Chapter.
2016	[B.03]	**E. C. Larson**, E. Saba, S. Kaiser*, M. Goel, S. Patel (2016). Pulmonary Monitoring Using Smartphones. *Mobile Health: Sensors, Analytic Methods, and Applications*, editors James M. Rehg, Susan A. Murphy, & Santosh Kumar. Book Chapter.
2014	[B.02]	M. Stiber, B. Stiber, and **E.C. Larson** (2014). Signal Computing: Digital Signals in the Software Domain. <u>Open Access Book</u>. Textbook.

| 2012 | [B.01] | G. Yen and **E.C. Larson** (2012). Facial Feature Tracking via Evolutionary Multi-objective Optimization. *Principal Concepts in Applied Evolutionary Computation: Emerging Trends*. Book Chapter, 4. |

4.5 PAPERS IN SUBMISSION OR PREPARATION

For a more interactive view of publications, including filtering, search, and varying categorizations, please see my website publications page: https://s2.smu.edu/~eclarson/publications.html

* == **Refers to Student Authors or Post-doctoral Researchers**

| XX | [J.X] In Sub. | Z. Wu*, Y. Wang*, Y. Zhang, and **E. C. Larson**, (202x). Causally Constrained Representation Learning on Degraded Multi-Sensor Streams. *In submission*. (Impact Factor: TBD, H-5 Index: TBD) |

| XX | [C.X] In Sub. | J. Sylvester*, M. Thornton, , and **E. C. Larson**, (202x). Granger-inspired Predictive Structure Test for RBG/RNG Evaluation. *In submission*. (Impact Factor: TBD, H-5 Index: TBD) |

| XX | [C.X] In Sub. | C. Peters*, M. Watts*, M. Thornton, and **E. C. Larson**, (202x). Cooperative Reinforcement Learning Approaches for Multi-UAV Localization of Emitters. *In submission*. (Impact Factor: TBD, H-5 Index: TBD) |

| XX | [C.X] In Sub. | Z. Wu*, Y. Wang*, D. Baker, H. Briggs, A. Kamata, and **E. C. Larson**, (202x). Difficulties in Contextual Speech Recognition: Children's Speech in Classroom Environments. *In submission*. (Impact Factor: TBD, H-5 Index: TBD) |

| XX | [J.X] In Sub. | M. Watts*, Y. Fozouni*, C. Harper*, **E. C. Larson**, (202x). Deep Learning Approaches for Enhanced Molecular Identification in Rotational Spectroscopy. *Major Revisions*. (Impact Factor: TBD, H-5 Index: TBD) |

| XX | [C.X] In Sub | E. Laird, C. Clark, and **E.C. Larson** (202x). Message-Passing Joint Embedding Predictive Architectures (MP-JEPA) . *In submission*. (Impact Factor: TBD, H-5 Index: TBD) |

| XX | [C.X] In Sub | N. Ghorbani*, C. Yang*, Y. Wang*, **E.C. Larson**, and J. Cao (202x). Interpretable Semantic Analysis of Text Using Transformers. *In preparation*. (Impact Factor: TBD, H-5 Index: TBD) |

4.6 REFEREED JOURNAL PUBLICATIONS

For a more interactive view of publications, including filtering, search, and varying categorizations, please see my website publications page: https://s2.smu.edu/~eclarson/publications.html

* == **Refers to Student Authors or Post-doctoral Researchers**

| 2026 | [J.39] | H. Kowalkowski, J. Palma, C. Herrera, D. Baker, Z. Wu* and **E.C. Larson** (2026). Using Natural Language Processing within a Sociocultural Context to Measure Student Science Word Knowledge. *Journal of Education Sciences*. Educ. Sci. **2025**, 15(12), 1668; MDPI Publishing. https://doi.org/10.3390/educsci15121668. (Impact Factor: 2.7, H-5 Index: 116) | IF: 2.7 |

| | [J.38] | J. Sylvester, *M. Thornton, M. Thornton, and **E. C. Larson**, (2026). Granger-inspired Test for Randomness in Bitstreams. *Journal of Information Technology, Methods and Applications of Informatics and Information Technology* (IT Journal). De-Gruyter-Brill Publishing. *To appear*. (Impact Factor: 1.3) | IF: 1.3 |

| | [J.37] | C.J. Sayre,* W. Bjorndahl,* **E.C. Larson**; J. Camp, R. Davila, M. Quevedo-Lopez, B. Gnade (2026). Low Cost, Mobile Radiation Anomaly Detection with Deep Adversarial Auto Encoders on the Edge. *Engineering Applications of Artificial Intelligence (EAAI)*, Volume 164, Part B, 2026, 113278, ISSN 0952-1976, https://doi.org/10.1016/j.engappai.2025.113278. (Impact Factor: 8.0, H-5 Index: 154) | IF: 8.0 |

2025	[J.36]	G. Mongaras* and **E.C. Larson**, (2025). On the Expressiveness of Softmax Attention: A Recurrent Neural Network Perspective. *Transactions on Machine Learning Research* (TMLR). DOI: *to appear*. https://openreview.net/forum?id=PHcITOi3vV (Impact Factor: *Journal has only existed since 2023, no metrics available*)	IF: *Pending*
	[J.35]	Y. Pan*, L. Ketterlin-Geller, C. Clark and **E.C. Larson**, (2025). Teachers as Informants in Participatory Design for Digital Game-Based Learning. *Technology, Knowledge, and Learning*. DOI: 10.1007/s10758-025-09908-9. (Impact Factor: 3.5, H-5 Index: 59)	IF: 3.5
	[J.34]	N. Barnett*, S. Nagrecha*, M. Glover*, C. Harper*, J. Wilson, J. Maher, and **E.C. Larson** (March 2025). Generalizing Classification of Pilot Workload: Transfer Learning versus a JEPA-Inspired Transformer Architecture. *International Journal of Aeronautics, Aviation, and Aerospace* (IJAAA). Volume *12*(1). pp 1-22. DOI: https://doi.org/10.58940/2374-6793.1971 (Impact Factor: 0.827)	IF: 0.83
2024	[J.33]	Kuo Wang*, Xin Qiao*, George Sammit*, **E.C. Larson**, Joseph Nese, Akihito Kamata (2024). Improving Automated Scoring of Prosody in Oral Reading Fluency Using Deep Learning Algorithm. *Frontiers in Education*, Vol. 9. DOI: 10.3389/feduc.2024.1440760. (Impact Factor: 1.9, H-5 Index: 72)	IF: 1.9
	[J.32]	Mike Taylor*, A. Sinha*, **E. C. Larson,** and Mitch Thornton (2024). General Process Detection via Side Channel Estimation. *Journal of Cyber Security Technology*. Taylor Francis Publishing. pp 1-41. DOI: https://doi.org/10.1080/23742917.2024.2384172. (Impact Factor: 2.9, H-5 Index: 26)	IF: 2.9
	[J.31]	Pan, Y.*, Adams, E. L., Ketterlin-Geller, L. R., **E. C**. **Larson,** & Clark, C. (2024). Enhancing middle school students' computational thinking competency through curriculum-oriented game-based learning. *Educational Technology Research & Development* (ETRD). Vol. 42, Issue 3. Advance Online Publication. https://doi.org/10.1007/s11423-024-10400-x. (Impact Factor: 5.4, H-5 Index: 66)	IF: 5.4
	[J.30]	M.R. Giannone*, S. Arrowsmith, J. Park, M. B. Stump, C. Hayward, **E.C. Larson**, (2024). Developing a Deep Learning Fusion Model for Event Detection and Classification within the Korean Peninsula. *Journal of Geophysical Research Letters*. Volume 51, Issue 14, pp e2024GL109404. DOI: 10.1029/2024GL109404. (Impact Factor: 5.2, H-5 Index: 102)	IF: 5.2
2023	[J.29]	C. Harper*, M. Thornton, and **E. C. Larson,** (2023). Automatic Modulation Classification with Deep Neural Networks. *Journal of Electronics.* MDPI Open Access Journal. Volume 12, Issue 18. p. 3962-3982. (Impact Factor: 2.9, H-5 Index: 88)	IF: 2.9
	[J.28]	Z. Wu*, Y. Wang*, (*Shared lead author*) J. Dai, T. Morgan, A. Garbens, H. Kominsky, J. Gahan, and **E.C. Larson** (2023). Evaluating Robotic Partial Nephrectomy Surgeons with Fully Convolutional Segmentation and Multitask Attention Networks. *Journal of Robotic Surgery* (JORS), 2023. Doi: 10.1007/s11701-023-01657-0. (Impact Factor: 2.48, H-5 Index: 26)	IF: 2.48
	[J.27]	Y. Fouzani*, B. Gnade, and **E. C. Larson,** (2023). CMOS-Based Rotational Spectroscopy: Massive Spectral Fingerprint Generation for Enabling Automated Molecular Detection. *Cell: Heliyon*. HELIYON-D-22-25421R2. DOI: 10.2139/ssrn.4273800. (Impact Factor: 3.78, H-5 Index: 75)	IF: 3.78
	[J.26]	Z. Wu*, G. Alford, S. Stothoff, O. Pensado, and **E. C. Larson** (2023). Exploring Convolutional Neural Networks for Predicting Sentinel-C Backscatter between Image Acquisitions. *IEEE Transactions on Geoscience and Remote Sensing*. 10.1109/TGRS.2023.3283217. (Impact Factor: 8.15, H-5 Index: 113)	IF: 8.15
	[J.25]	H. Tian*, X. Jiang*, S. Xiao, H. La Force*, **E. C. Larson** and P. Tao (2023). LAST: Latent Space Adaptive Sampling for Protein Trajectories. *Journal of Chemical Information Modeling*. Pgs. 67-75 (Impact Factor: 6.16, H-5 Index: 73)	IF: 6.16

2022	[J.24]	X. Ding*, Y. Fang, T. Han, and **E.C. Larson** (2022). An Approach for Combining Multimodal Fusion and Neural Architecture Search Applied to Knowledge Tracing. *Journal of Applied Intelligence (APIN), International Journal of Research on Intelligent Systems*. Springer Publishing. Pgs. 1-12. (Impact Factor: 5.1,　H-5 Index: 65)	IF: 5.1
	[J.23]	V. Viswanath*, J. Hoffman*, X. Ding*, **E.C. Larson**, Edward Wang (2022). Towards Ubiquitous SpO2 Sensing on Unmodified Smartphones: Deep Learning Applied to a Varied Fractional Inspired Oxygen (FiO2) Study. *NPJ Digital Medicine.* Springer Nature. Pgs 1-10. (Impact Factor: 11.65,　H-5 Index: 72)	IF: 11.65
	[J.22]	H. Kominsky, Y. Wang*, J. Gahan, A. Garbens, and **E.C. Larson** (2022). "Using a multi-task convolutional neural network to predict surgeon skill in robot-assisted partial nephrectomy." 2022 *Journal of Urology*. Supplemental Volume 5, pg e727. (Impact Factor: 7.45,　H-5 Index: 80)	IF: 7.45
2021	[J.21]	H. Tian*, X. Jiang*, F. Trozzi*, S. Xiao, **E. C. Larson** and P. Tao (2021). Explore protein conformational space with variational autoencoder. *Journal on Frontiers in Molecular Biosciences, section Biological Modeling and Simulation* (Frontiers). https://www.frontiersin.org/articles/10.3389/fmolb.2021.781635/full (Impact Factor: 4.62,　H-5 Index: 42)	IF: 4.62
	[J.20]	Y. Wang*, J. Dai, T. Morgan, M. Elsaid*, A. Garbens, X. Qu*, R. Steinberg, J. Gahan, and **E.C. Larson** (2021). Evaluating Robotic-Assisted Surgery Training Videos with Multi-task Convolutional Neural Networks. *Journal of Robotic Surgery* (JORS), 2021. Doi: 10.1007/s11701-021-01316-2. (Impact Factor: 2.48,　H-5 Index: 23)	IF: 2.48
	[J.19]	M. Makos*, N. Verma*, **E.C. Larson,** and E. Kraka (2021). Prediction of the Transition State Geometry via Generative Adversarial Network. *The Journal of Chemical Physics.* (Impact Factor: 3.49,　H-5 Index: 81)	IF: 3.49
	[J.18]	R. Srinivas*, N. Verma*, E. Kraka, and **E.C. Larson** (2021). Deep Learning-based Ligand Design using Shared Latent Implicit Fingerprints from Collaborative Filtering. *Journal of Chemical Information and Modeling*. (Impact Factor: 4.96,　H-5 Index: 62)	IF: 4.96
	[J.17]	N. Verma*, X. Qu*, F. Trozzi, Md. Elsaied*, N. Karki, P. Tao, B. Zoltowski, **E. C. Larson**, E. Kraka (2021). SSnet: A Deep Learning Approach for Protein-Ligand Interaction Prediction. *International Journal of Molecular Sciences* (IJMS), *Section of Molecular Pharmacology*. (Impact Factor: 5.93,　H-5 Index: 150)	IF: 5.93
	[J.16]	J. Wilson*, S. Nair, S. Scielzo, and **E.C. Larson** (March 2021). Cognition-Aware Computing: Objective Measures of Cognitive Load Using Deep Multi-Modal Learning: A Use-Case in Aviation. *Proceedings of the ACM Journal on Interactive Mobile Wearable, and Ubiquitous Technology.* Vol. 5, Issue. 1, Article 40 (March 2021), 35 pages. https://doi.org/10.1145/3448111 (Impact Factor: 2.10,　H-5 Index: 45)	IF: 2.1
2020	[J.15]	J. Wilson*, S. Nair, S. Scielzo, and **E.C. Larson** (August 2020). Automatic Gaze Classification for Aviators: Using Multi-task Convolutional Networks as a Proxy for Flight Instructor Observation. *International Journal of Aeronautics, Aviation, and Aerospace* (IJAAA). (Impact Factor: 0.49,　H-5 Index: 10)	IF: 0.49
	[J.14]	X. Ding* and **E.C. Larson** (2020). "Incorporating Uncertainties in Student Response Modeling by Loss Function Regularization." *Journal of Neurocomputing*, 2020. (Impact Factor: 5.72,　H-5 Index: 119)	IF: 5.72
	[J.13]	X. Ding*, Z. Raziei*, **E.C. Larson**, E. Olinick, P. Krueger, and M. Hahsler (2020). "Swapped Face Detection using Deep Learning and Subjective Assessment." *EURASIP Journal on Information Security*. (Impact Factor: 3.17,　H-5 Index: 27)	IF: 3.17

	[J.12]	X. Qu*, J. Gahan, R. Steinberg, A. Garbens, and **E.C. Larson** (2020). "MP34-06 Machine learning using a muti-task convolutional neural network can accurately assess robotic skills." *The Journal of Urology* 203, no. Supplement 4 (2020): e505-e505. (Impact Factor: 7.45, H-5 Index: 80)	IF: 7.45
2019	[J.11]	F. Chang, **E.C. Larson**, and M. Fontenot (2019). "Computer Science Education: Fueling Tomorrow's Technology Growth." *Georgetown Journal of International Affairs*. Johns Hopkins University Press.https://www.georgetownjournalofinternationalaffairs.org/?category=Science+%26+Technology (Impact Factor: 0.35, H-5 Index: 11)	IF: 0.35
	[J.10]	X. Ding*, A. Doyle*, K. Donahoo*, E. Bing, R. Rajgopal, and **E.C. Larson** (2019). "EduAware: Using Tablet-Based Navigation Gestures to Predict Learning Module Performance." *Journal of Interactive Learning Environments*. https://www.tandfonline.com/doi/abs/10.1080/10494820.2019.1609524 (Impact Factor: 2.87, H-5 Index: 47)	IF: 2.87
	[J.09]	T. Giallanza*, T. Siems*, E. Sharp*, I. Johnson*, E. Gabrielsen*, M. Thornton, and **E.C. Larson** (June 2019). Keyboard Snooping via Mobile Phones: Threats of Device Arrays. *Journal of Interactive, Wearable, and Ubiquitous Technology* (IMWUT). 2019. (Impact Factor: 4.16, H-5 Index: 45)	IF: 4.16
2018	[J.08]	X. Ding*, D. Nassehi, and **E.C. Larson**. Measuring Oxygen Saturation using Convolutional Neural Networks on Smartphones. *IEEE Journal of Biomedical and Health Informatics*, JBHI (2018). (Impact Factor: 5.77, H-5 Index: 71)	IF: 5.77
	[J.07]	R. Srinivas*, P. Klimovich*, and **E.C. Larson**. Implicit-descriptor ligand-based virtual screening by means of collaborative filtering. *Journal of Cheminformatics*. 10, no. 1 (2018): 56. (Impact Factor: 5.51, H-5 Index: 42)	IF: 5.51
2017	[J.06]	C. Wangwiwattanna*, X. Ding*, and **E.C. Larson**. PupilNet, Measuring Task Evoked Pupillary Response using Commodity RGB Tablet Cameras: Comparison to Mobile, Infrared Gaze Trackers for Inferring Cognitive Load (Dec. 2017). *Journal of Interactive, Wearable, and Ubiquitous Technology* (IMWUT). (Impact Factor: 4.16, H-5 Index: 45)	IF: 4.16
	[J.05]	J. Taylor, J. Stout, L. deGreef, M. Goel, S.N. Patel, E. Chung, A. Koduri, S. McMahon, J. Dickerson, E. Simpson, and **E. C. Larson** (2017). Use of a Smartphone App to Assess Neonatal Jaundice. *Journal of Pediatrics*. August 2017: p.e20170312. (Impact Factor: 7.13, H-5 Index: 120)	IF: 7.13
2011	[J.04]	**E. C. Larson**, J. Froehlich, T. Campbell, C. Haggerty, L. Atlas, J. Fogarty, and S. N. Patel, (2011). "Disaggregated Water Usage Sensing from a Single, Non-Intrusive Sensor: an Extended Analysis of HydroSense using Staged Experiments." *The Pervasive and Mobile Computing Journal* (PMC). 8(1):82-102. (Impact Factor: 4.67, H-5 Index: 45)	IF: 4.67
	[J.03]	J. Froehlich, **E.C. Larson**, S. Gupta, G. Cohn, M. Reynolds, S.N. Patel (2011). "Disaggregated End-Use Energy Sensing for the Smart Grid" *IEEE Pervasive Computing, Special Issue on Smart Energy Systems*. 10(1):28-39. (Impact Factor: 3.175, H-5 Index: 25)	IF: 3.1
2010	[J.02]	**E. C. Larson** and G. Yen (2010). "Facial Feature Tracking via Evolutionary Multi-objective Optimization," *International Journal of Applied Evolutionary Computation* (IJAEC), 1(1):57-71, 2010. (Impact Factor: 3.83, H-5 Index: 28)	IF: 3.83
	[J.01]	**E. C. Larson** and D. M. Chandler (2010). "The Role of Strategy in Image Quality: The Most Apparent Distortion," *Journal of Electronic Imaging*, 19(1), 011006, January-March 2010. Featured on Cover, Most Cited Article in JEI (Impact Factor: 1.50, H-5 Index: 73)	IF: 1.50

4.7 SELECTED CONFERENCE PUBLICATIONS

For a more interactive view of publications, including filtering, search, and varying categorizations, please see my website publications page: https://s2.smu.edu/~eclarson/publications.html

Notes:

- **This "selected" listing includes recent, awarded, and high impact conference papers only. Numbering in this list is taken from the full list of conference papers.**
- **A full list of all conference publications can be found in appendix at the end of this document.**
- *** == Refers to Student Authors or Post-doctoral Researchers**

2026	[C.86]	D. Baker, G. Sirganci,* P. Foster,* H. Briggs,* Z. Wu,* and **E. C. Larson** (2026), Predictive Validity of an Expressive Vocabulary Science Measure for Second and Third Grade Students, *Society for the Scientific Study of Reading* (SSSR 2026). Rotterdam, Netherlands. DOI: *To Appear*. (Impact Factor: 2.4, H Index: 82)
	[C.84]	C. Harper,* E. Laird,* M. Thornton, and **E. C. Larson** (2026), Differentiable Resizing: Resolution Layers, *International Conference on Acoustics, Speech, and Signal Processing* (ICASSP 2026). Barcelona, Spain. pp 1-5. DOI: *To Appear*. (Impact Factor: 4.8, H-5 Index: 137)
	[C.81]	C. Peters*, M. Watts*, M. Thornton, **E.C. Larson** (2026). Geometry Adaptive Deep Q-Network for UAV-Based Emitter Localization in Cluttered RF Environments. 47th *IEEE Aerospace Conference* (AeroConf). Big Sky, MT, USA, March 2026. *To Appear.* (H-5 Index: 35, H-Index: 70)
2025	[C.75]	M. Lee, W. Flinchbaugh, **E. C. Larson** and M. Thornton, (2025). Effects of Redundant LiDAR Sensors on Object Hiding Attacks in Autonomous Driving Systems. *IEEE Computer Society Signature Conference on Computers, Software, and Applications (COMPSAC 2025)*. July8-11, Toronto, Canada. (H-5 Index: 29, H-Index: 59)
	[C.73]	Y. Wang*, Z. Wu*, J. Nese, A. Kamata, and **E.C. Larson**, (2025). A Unified Model for Reading Fluency and Prosody. *International Conference on Acoustics, Speech, and Signal Processing* (ICASSP 2025). Hyderbad, India. pp 1-5. DOI: 10.1109/ICASSP49660.2025.10888858 (Impact Factor: 4.8, H-5 Index: 129)
	[C.70]	G. Mongaras*, T. Dohm*, and **E.C. Larson**, (2025). Cottention: Linear Transformers with Cosine Attention. *Computing Conference 2025*. SAI, Springer Publishing LNNS. July, London, UK. Awarded Best Paper (H-5 Index: 30)
2024	[C.63]	C. Harper*, M. Thornton, and **E. C. Larson,** (2024). Learnable Statistical Moments Pooling for Automatic Modulation Classification. *2024 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Seoul, Korea, Republic of, 2024, pp. 8981-8985, doi: 10.1109/ICASSP48485.2024.10446295. (Impact Factor: 4.8, H-5 Index: 123)
	[C.62]	Y. Wang*, Z. Wu*, J. Nese, A. Kamata, V. Nilabh*, and **E.C. Larson**, (2024). Improving Oral Reading Fluency Assessment through Sub-sequences Matching of Acoustic Word Embeddings. *2024 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Seoul, Korea, Republic of, 2024, pp. 10766-10770, doi: 10.1109/ICASSP48485.2024.10447029. (Impact Factor: 4.8, H-5 Index: 123)
2023	[C.56]	Z. Wu*, **E. C. Larson**, M. San, D. Baker, N. Gage, A. Kamata**,** (2023). Towards Scalable Vocabulary Acquisition Assessment with BERT. *ACM International Conference on Learning at Scale* (L@S 2023). (Impact Factor: 2.06, H-5 Index: 25)
2022	[C.48]	H. Tian*, X. Jiang*, H. La Force*, S. Xiao, **E. C. Larson** and P. Tao (2022). LAST: Latent Space Adaptive Sampling for Protein Trajectories. Thirty Ninth Annual International Conference on Machine Learning (ICML), Special Workshop on AI4Science, Presented. (Impact Factor: 18.48, H-5 Index: 204, 19th highest ranked publication venue, via Google Metrics 2022)

[C.46] G. Sammit*, Z. Wu*, Y. Wang*, Z. Wu*, A. Kamata, J. Nese, and **E. C. Larson** (2022). Automated Prosody Classification for Oral Reading Fluency with Quadratic Kappa Loss and Attentive X-vectors. *International Conference on Acoustics, Speech, and Signal Processing* (ICASSP 2022). Pgs 3613-3617. (Impact Factor: 4.96,   H-5 Index: 96)

2021   [C.41] Luo, V.*, Klinkert, L. J.*, Tseng, C.*, Foster, P. D.*, Adams, E. L., Ketterlin-Geller, L. R., Clark, C, and **Larson, E. C.**. (2021). A Multidisciplinary Approach To Designing Immersive Gameplay Elements for Learning Standard-Based Educational Content. *In CHI PLAY'21: Annual Symposium on Computer-Human Interaction in Play,* October, 2021. ACM, New York, NY, USA, 9 Pgs. (Impact Factor: 2.73)

[C.40] J. Sylvester*, M. Lee*, M. J. Hornbach, M. Thornton, **E.C. Larson**, S. Aggarwal, M. Manga, S. Hurwitz, A. Calvert, S. Wilkinson, B. Miller, and Z. Smith (2021). Time Series Clustering using Granger Causality to Identify Time Series Applicable to Forecasting Internal Waves in Lake and Marine Environments. *American Geophysical Union Annual Meeting* (AGU21). *Accepted for Poster Presentation and Lightning Presentation.* December 2021. (Impact Factor: 4.26,   H-5 Index: 33)

[C.34] L. Wood* and **E.C. Larson** (2021). "Parametric Spectral Filters for Fast Converging, Scalable Convolutional Neural Networks." International Conference on Acoustics, Speech, and Signal Processing. ICASSP 2021. (Impact Factor: 4.96,   H-5 Index: 96)

2020   [C.32] S. Scielzo, J. Wilson*, and **E.C. Larson** (June 2020). "Towards the Development of an Automated, Real-Time, Objective Measure of Situation Awareness for Pilots." Interservice/Industry Training, Simulation, and Education Conference (I/ITSEC 2020). Overall Best Paper Winner, Platinum Paper (*Winner among all papers at conference*) (H-5 Index: 15)

[C.31] X. Ding* and **E.C. Larson** (2020). "Automatic RNN Cell Design for Knowledge Tracing using Reinforcement Learning." 2020 *ACM International Conference on Learning at Scale* (L@S 2020). (Impact Factor: 2.06,   H-5 Index: 26)

2019   [C.30] X. Ding* and **E.C. Larson** (2019). "Why Deep Knowledge Tracing has less Depth than Anticipated." 2019 Conference on Educational Data Mining. (Impact Factor: 1.57,   H-5 Index: 27)

[C.28] S. Douglas and **E.C. Larson** (2019). "Relationships Between Deep Learning and Linear Adaptive Systems." International Conference on Acoustics, Speech, and Signal Processing. ICASSP 2019. Invited Paper. (Impact Factor: 4.96,   H-5 Index: 96)

2016   [C.27] S. Kaiser*, A. Parks*, P. Leopard*, C. Albright*, J. Carlson*, M. Goel, D. Nassehi, **E.C. Larson.** (2016). Design and learnability of vortex whistles for managing chronic lung function via smartphones. In Proceedings of the 2016 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp 2016). Heidleberg, Germany. September 2016. Acceptance Rate: 26% (101/389) (Impact Factor: 3.10,   H-5 Index: 47)

[C.26] M. Goel, E. Saba, M. Stiber, E. Whitmire, J.Fromm, **E.C. Larson,** G. Borriello, S. Patel (2016). Spirocall: Measuring lung function over a phone call. In Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems 2016 May 7 (CHI 2016). Nominated for Best Paper Acceptance Rate: 23% (565/2435) (Impact Factor: 2.73,   H-5 Index: 101)

2015   [C.23] K. Chen, S. Gupta, **E. C. Larson**, S. Patel (2015). "DOSE: Detecting User-Driven Operating States of Electronic Devices from a Single Sensing Point." Proceedings of the International Conference on Pervasive Computing (PerCom 2015). Saint Louis, Missouri. January 2015. (Impact Factor: 2.23,   H-5 Index: 27)

2014   [C.22] L. DeGreef, M. Goel, M. Seo, J. Stout, J. Taylor, **E.C. Larson**, and S. Patel (2014). "BiliCam: Using Mobile Phones to Measure Newborn Jaundice." Proceedings of the 16th International Conference on Ubiquitous Computing. (UbiComp 2014). Seattle, WA. September 2014. Nominated for Best Paper Acceptance Rate: 21% (94/454) (Impact Factor: 3.10,   H-5 Index: 47)

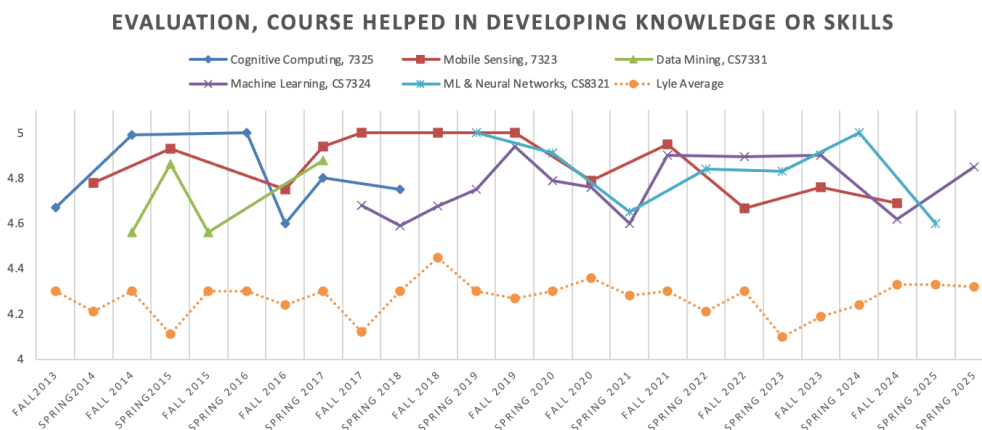| 2013	[C.20]	J. Lindsay, I. Jiang, **E.C. Larson**, R. Adams, S.N. Patel, & B. Hannaford (2013). "Good Vibrations: An Evaluation of Vibro-tactile Impedance Matching for Low Power Wearable Applications." Proceedings of UIST 2013. St. Andrews, UK, October 8-11, 2013. Acceptance Rate: 19% (60/317) (Impact Factor: 6.01, H-5 Index: 42)
	[C.19]	M. Aumi, S. Gupta, M. Goel, **E.C. Larson**, and S.N. Patel (2013). "DopLink: Using the Doppler Effect for Multi-Device Interaction." Proceedings of the 15th International Conference on Ubiquitous Computing. (UbiComp 2013). Zurich Switzerland. September 8-12, 2013. Acceptance Rate: 23% (92/394) (Impact Factor: 3.10, H-5 Index: 47)
2012	[C.17]	**E.C. Larson**, M. Goel, G. Boriello, S. Heltshe, M. Rosenfeld, and S.N. Patel (2012). "SpiroSmart: Using a Microphone to Measure Lung Function on a Mobile Phone." Proceedings of the 14th International Conference on Ubiquitous Computing (UbiComp 2012), Pittsburgh, USA, Sep 5-8, 2012. Nominated for Best Paper Acceptance Rate: 19% (58/301) (Impact Factor: 3.10, H-5 Index: 47)
	[C.16]	J. Froehlich, L. Findlater, M. Ostergren, S. Ramanathan, J. Peterson, I. Wragg, **E.C. Larson**, F. Fu, M. Bai, S.N. Patel, J. Landay (2012). "The Design and Evaluation of Prototype Eco-Feedback Displays for Fixture-Level Water Usage Data." Proceedings of the 2012 ACM Annual Conference on Human Factors in Computing Systems (CHI 2012), 2367-2376, Austin, TX May 2012. Best Paper Honorable Mention Acceptance Rate: 23% (363/1577) Acceptance Rate: 25% (Impact Factor: 2.73, H-5 Index: 101)
2011	[C.13]	**E. C. Larson** T. Lee, S. Liu, M. Rosenfeld, and S. N. Patel (2011). "Accurate and Privacy Preserving Cough Sensing from a Low Cost Microphone." Proceedings of the 13th International Conference on Ubiquitous Computing (UbiComp 2011), 375-384, Beijing, China, September 2011. Acceptance Rate 16.6% (50/302) (Impact Factor: 3.10, H-5 Index: 47)
	[C.12]	**E.C. Larson**, J. Froehlich, E. Saba, T. Campbell, L. Atlas, J. Fogarty, S.N. Patel (2011). "A Longitudinal Study of Pressure Sensing to Infer Real-World Water Usage Events in the Home." Proceedings of the Ninth International Conference on Pervasive Computing (Pervasive 2011). 50-69, San Francisco, CA, June 12-15, 2011. Acceptance Rate: 23.6% (22/93) (Impact Factor: 1.02, H-5 Index: 47)
	[C.11]	**E.C Larson**, G. Cohn, S. Gupta, X. Ren, B. Harrison, D. Fox, S.N. Patel (2011) "HeatWave: Thermal Imaging for Surface user Interaction." Proceedings of the 2011 ACM Annual Conference on Human Factors in Computing Systems (CHI 2011), 2565-2574, Vancouver, Canada, May 7 - 12, 2011. Best Paper Honorable Mention Acceptance Rate: 25% (Impact Factor: 2.73, H-5 Index: 101)
2010	[C.10]	T. Campbell, **E.C. Larson**, G. Cohn, J. Froehlich, R. Alcaide and S.N. Patel (2010). "WATTR: A Method for Self-Powered Wireless Sensing of Water Activity in the Home." In Proceedings of the 12th ACM International Conference on Ubiquitous Computing (UbiComp 2010). 169-172, Copenhagen, Denmark, September 2010. Acceptance Rate: 19% (39/202) (Impact Factor: 3.10, H-5 Index: 47)
	[C.09]	G. Cohn, S. Gupta, J. Froehlich, **E. C. Larson**, and S. Patel (2010). "GasSense: Appliance-Level, Single-Point Sensing of Gas Activity in the Home" Proceedings of the Eighth International Conference on Pervasive Computing (Pervasive 2010), 265-282, Helsinki, Finland, May 17-20. Acceptance Rate: 17% (Impact Factor: 1.02, H-5 Index: 47)
2009	[C.08]	J. Froehlich, **E. C. Larson**, C. Haggerty, T. Campbell, S. Patel, and J. Fogarty (2009). "HydroSense: Infrastructure-Mediated Single-Point Sensing of Whole Water Home Activity In Proceedings of the 11th ACM International Conference on Ubiquitous Computing (UbiComp 2009), Orlando, FL, Sep. 2009. Nominated for Best Paper Acceptance Rate: 12.4% (Impact Factor: 3.10, H-5 Index: 47)
2008	[C.03]	**E. C. Larson**, C. Vu, and D. Chandler (2008). "Can Visual Fixation Patterns Improve Image Fidelity Assessment?," Proc. of the International Conference on Image Processing (ICIP 2008), 2572-2575, 2008. (Impact Factor: 2.08, H-5 Index: 60)

4.8 PATENTS

2021	[P.09]	Thornton, M. A., **Larson, E. C.,** Manikas, T. W., Taylor, M. A., Sinha, A., Srirama, N., Patent, "Control System Anomaly Detection Using Neural Network Consensus", United States Patent. US11546205B1. Assignee: Ironwood Cyber, Inc.
2018	[P.08]	**E.C. Larson**, M. Thornton, I. Johnson*, E. Gabrielsen*, and T. Siems*. Generating Upsampled Signals from Gyroscope Patent No. 11387083B1. Assignee: Ironwood Cyber, Inc.
2017	[P.07]	**E.C. Larson**, Spencer Kaiser*, Ashley Parks*, Patrick Leopard*, and Damoun Nassehi (2017). Vortex Whistle Devices and Systems and Methods for Spirometry Measurements. App No. 15/702351. US Patent. Assignee: DigiDoc Technologies
2014	[P.06]	**E.C. Larson**, M. Goel, L. DeGreef, S. Patel, J. Stout, and J. Taylor (2014). "Devices, Systems and Methods for Estimating Bilirubin Levels." App No. PCT/US2014/024761. License Agreement with Google
	[P.05]	**E.C. Larson**, M. Goel, and S.N. Patel (2014). "Sound-Based Spirometric Devices, Systems and Methods." US Patent WO2013170131A1 License Agreement with Google
2013	[P.04]	T. Campbell, **E.C. Larson**, G. Cohn, S.N. Patel (2013). "Automatic Valve Shutoff Device and Methods." WO Patent 2,013,106,690. License Agreement with Allstate Insurance
2012	[P.03]	S. Patel, **E.C. Larson**, T. Lee, S. Liu (2012). "Cough Detecting Methods and Devices for Detecting Coughs." WO Patent 2,013,040,485. US Patent Pending. License Agreement with Google
	[P.02]	T. Campbell, **E. C. Larson**, G. Cohn, R. Alcaide, J. Froehlich, S. Patel (2012). "Systems and Methods for Energy Harvesting in a Contained Fluid Circuit." US Patent WO2009103332A1.
2009	[P.01]	S. Patel, J. Fogarty, J. Froehlich, **E. C. Larson**. "Sensing Events Affecting Liquid Flow in a Liquid Distribution System." EP Patent 2,440,901. License Agreement with Phin Technologies and Belkin Technologies

5 TEACHING

Teaching Awards	**2023 Altshuler Distinguished Teaching Award and Member of SMU's Academy of Distinguished Teachers** which annually recognizes four SMU faculty members for their notable commitment to and achievements in fostering student learning. These are teachers whose concerns for higher education go beyond classroom boundaries and often the boundaries of their own disciplines. In student mentoring, in discussions about teaching, and in continuous reflection about their own successes and ways to improve, they represent the highest achievement in reaching the goals of higher education. **2020 Nominated for President's Associates Award** which honors tenured faculty members who have sustained high achievement as teachers and whose scholarship makes a meaningful contribution to student learning **2016 Professor of the Year,** Honoring Our Professors of Excellence (HOPE) College-wide Award Given Annually to One SMU Professor
Courses Redesigned	**CS8321 Neural Networks and Machine Learning** Lecture Course on Contemporary Research in Neural Networks including Generative Models, Transfer Learning, Neural Visualization, and Reinforcement Learning. First offered Spring 2019. -*Teaching Format*: Interactive Lectures with Demonstration Code built into Lecture Slides.

Courses Created	**CS5324/7324 Machine Learning in Python** Lecture Course on Machine Learning Methods, with Emphasis on Neural Networks and Deep Learning. Uses Flipped Modules for five lectures, with emphasis on projects related to data classification and regression. Offered once every semester to accommodate demand for course. Enrollment consistently exceeds 50 students. -*Teaching Format*: Traditional Lecture, Live Coding Demonstrations, Live Polling, Flipped Lecture Format with Flipped Assignments **CS5323/7323 Mobile Sensing, and Learning in iOS** Lecture and Lab Course for Accessing, Processing, and Learning from Sensors on Mobile Devices. Five flipped modules with emphasis on design of iOS applications. Seven apps dues during the semester, including final project app. Usage of CoreML in iOS for local machine learning as well as RESTful API for cloud processing. Offered every other semester. Enrollment consistently stays at 24 students (maximum that lab can accommodate). -*Teaching Format*: Traditional Lecture, Live Coding Demonstrations, Flipped Lecture Format with Flipped Assignments **CS5325/7325 Ubiquitous and Cognitive Computing** Lecture Course on Human-Computer Interaction Methods for Wearables and Ubiquitous Technology. Seven flipped modules and ten lectures discussing various papers published in the field. Emphasis on creating of technology and evaluation of technology for final project. Offered every other semester. Enrollment consistently exceeds 20 students. -*Teaching Format*: Traditional Lecture, Student Led Paper Discussions, Flipped Lecture Format with Flipped Assignments **MSDS7331 Data Mining for Data Scientists** Flipped Lecture Format Course, Specialized for master's in data science. Course was created and filmed by Professor Larson, including design of all live format curriculum and projects. Emphasis on breadth of data mining concepts including visualization, regression, classification, clustering, association mining, and collaborative filtering. Twelve sections offered yearly with 10-15 students per section (with adjunct lecturers in MSDS program). One of the highest rated courses in the MSDS program. Since I created this course, it has been separated into multiple machine learning courses in the MSDS program. The amount of content and expected rigor was considered too difficult for an online cohort. -*Teaching Format*: Online Format Class with Video Lectures Each Week and One Live Lecture Period, Live Coding Demonstrations, Flipped Lecture Format with In-Class Assignments (Virtual Student Groups)
Other Courses Taught at SMU	**CS8098 Computer Science Seminar.** Offered every semester. Serves as orientation to graduate students. Professor Larson has manipulated this course to include instruction on giving technical presentations, writing papers, and generally navigating graduate life during first three weeks of course. Remainder of course is reserved for research talks from various speakers, mostly external to SMU. **CS5331/7331 EMIS5332/7332 Introduction to Data Mining** **CS7331 Data Mining, SMU-Raytheon Garland Program**

Teaching Evaluation Summary

EVALUATION, COURSE HELPED IN DEVELOPING KNOWLEDGE OR SKILLS

Legend: Cognitive Computing, 7325 — Mobile Sensing, 7323 — Data Mining, CS7331 — Machine Learning, CS7324 — ML & Neural Networks, CS8321 — Lyle Average

Evaluations per course, per semester. Note that Lyle evaluation questions changed in Fall of 2019. Therefore, I am reporting evaluation scores on the question "*This course helped me to develop knowledge or skills.*" **My overall average evaluations are higher than this question**, but I believe this question is particularly insightful towards the content, tools, and manner of my lectures.

Student Comments

Here are a number of selected responses from students. These selections are cherry picked examples that make me feel accomplished as an instructor. They are here for me to come back to remind me that our roles as instructors are to prepare and inspire the next generation of students, not simply check a box about curriculum. Intellect without inspiration is life without meaning.

There are plenty of negative critiques about my instruction, typically related to harsh grading and unrealistic expectations of students.

"It was apparent and appreciated the amount of work you put into this course and your students. I can honestly say I am a little astounded in the amount I have learned from your course alone. Working …and taking courses can be tough, but I always enjoyed your lectures and if I had to watch the replay, I wasn't tempted to put it on times 2."

"…all of the notebooks that Dr. Larson provided were incredibly helpful. He provides the best resources by far in the program. He is an accomplished coder and you can tell by the way that he explains the code as he works through the problems. His videos are extremely professional…"

"Eric Larson is a fantastic and gifted teacher and does not need to change anything at all about his teaching style. He is excellent at engaging the class, is knowledgeable and passionate about the subject, and willing to help students at any time outside of class."

"One of my favorite instructors at SMU"

"Professor Larson is by far one of, if not the best professor I have ever had. He is able to teach complicated topics in an extremely approachable way."

"Your commitment to making sure we truly understand the material—rather than just memorize it—makes all the difference."

"What stands out most is how you encourage us to make mistakes. You've created a classroom environment where being wrong isn't something to fear, but something to learn from. That kind of mindset shift is rare and incredibly empowering."

"It's clear that you are a true educator—someone who's not only deeply knowledgeable, but who also genuinely cares that we grow as thinkers. I've learned more than just course content in your class; I've learned how to approach complex problems with curiosity and confidence."

Other Courses Offered Outside SMU

CSS457 Multimedia and Signal Computing (UW Bothell)

EE518 Advanced Digital Signal Processing (UW Seattle)
Lecturer for Recitation, Professional Master's Program

EE233 Circuit Analysis II (UW Seattle)
Lab Manager, Lecturer for Recitation

ECEN 3714 Network Analysis (OSU Stillwater)
Lab Manager, Lecturer for Recitation

ECEN 3021 Experimental Methods II (OSU Stillwater)
Lab Manager, Lecturer for Recitation

6 SERVICE

6.1 PROFESSIONAL SERVICE

2025	Co-Organizer, Dallas Workshop on Infrastructure Resilience
2025	Chair, UbiComp Awards 10-Year Impact Committee
2025	Chair, Gaetano Boriello Student Award
2025	Presenter for SMU (Representative) at Dallas Convergence AI University Summit
2024	Organizer and Facilitator for Workshop on Computational Biology & Health, Pegasus Park
2024-*present*	Associate Editor (Third Term) for ACM Journal of Interactive, Mobile, Wearable, and Ubiquitous Technology
2020-2023	Associate Editor (Second Term) for ACM Journal of Interactive, Mobile, Wearable, and Ubiquitous Technology
2023	Organizer, IES PI-Meeting, Improving Literacy Assessments via Automated Transcription
2021	Session Organizer, 2021 International Conference Ubiquitous Computing
2019	Session Organizer, 2019 International Conference Ubiquitous Computing
2018	Committee Member for 10 Year Impact Award Paper in Ubiquitous Computing
2017-2020	Associate Editor (First Term) for ACM Journal of Interactive, Mobile, Wearable, and Ubiquitous Technology
2017	Session Chair, 2017 International Conference Ubiquitous Computing
2016	Program Committee Member for International Conference on Ubiquitous Computing
2016	UbiComp Best Paper Selection Committee
2015	Program Committee Member for International Conference on Ubiquitous Computing
2014	Doctoral Colloquium Co-Organizer, 2014 International Conference on Ubiquitous Computing
2014	Program Committee Member for International Conference on Ubiquitous Computing

6.2 UNIVERSITY SERVICE

2025-*present*	Interim Director for SMU Institute on Computational Biosciences
2025	University Committee on AI Use and the Honors Council
2025	Altshuler Teaching Award Selection Committee Member
2024-2025	Search Committee Member, Endowed Frensley Chair in Data Science
2024-2025	Search Committee Member, Endowed Rhines Chair in Quantum Computing (Successful)
2023-2025	Search Committee Member for CS Department Head
2024-2025	Chair, Institutional Review Board
2023-2024	Chair, AI-Powered Faculty Search Committee (Resulting in Three Successful Hires)
2023-2024	Search Committee Member for Quantum Faculty (Two Positions)
2023	Search Committee Member for TEIL Cluster Hire
2023	Member, Data Science Director Search Committee
2023	Altshuler Teaching Award Selection Committee Member
2023-*present*	Member of SMU Information Technology Leadership Council (Faculty Representative)
2023	Panelist, University forum on Generative AI and Chat-GPT
2023	Panelist, University Program on Mentorship and Graduate Student Success
2022-2023	Member, Lyle Dean Search Committee
2022-2023	Chair, CS Faculty Search Committee (Resulting in Faculty Hire at Assistant Professor)
2021-2022	Member, Ph.D. of Data Science Program Proposal and Design Committee
2022-2023	Search Committee Member for TEIL Cluster Hire
2021-2022	Search Committee Member for Cluster Hire 21st Century Education and Technology
2019-*present*	Master of Science in Data Engineering Program Committee Oversight Member
2020-2022	Lyle School Advisor for Data Science Major and Minor
2019- 2021	Member of Data Science Oversight Committee
2020-2021	Chair, CS Faculty Search Committee (Resulting in Faculty Hire at Full Professor)
2019-2020	Chair, CS Faculty Search Committee (Resulting in Faculty Hire at Associate Professor)
2016-*present*	Member of SMU Human Subjects Board and IRB
2016	Committee Member on Taskforce to Review Lyle Engineering Senior Design
2014-2026	Faculty in Charge for Computer Science Research Seminar

6.3 SUPERVISORY COMMITTEE MEMBER (MS AND PHD, *COMMITTEE MEMBER ONLY*)

2025	[M.31]	Wang, Kuo. Automated Scoring Of Prosody In Oral Reading Fluency Assessment. PhD Proposal Exam. (January 2025)
	[M.30]	Giannone, M. Advancing The Characterization Of Geophysical Signals Through Array Processing And Artificial Intelligence. PhD Defended (November 2025)
	[M.29]	Vinbalaji, A. An Unobtrusive Rf Sensing Solution For Passive Human-Robot Interaction Verification. MS Thesis Defended (Dec. 2025)
	[M.28]	Maleki, Md, Phd Thesis Committee Member, Travel Behavior Analysis Towards Improved Public Health: Modeling Bike-Share Dynamics And Healthcare Accessibility. Phd Proposed. (May 2025).
	[M.27]	Wang, Ruxin, Phd Thesis Committee Member, Ai-Powered Cyber-Physical Systems For Advanced Security And Healthcare. Phd Completed. (March 2025).
2024	[M.26]	Shurts, Bryce, MS Thesis Committee Member, Neuro-Symbolic Commonsense Reasoning With Resistance To Data Poisoning: A First-Order Logic And Sub-Symbolic Embeddings Framework. MS Completed. (May 2024).
	[M.25]	Lee, Tim, Dissertation Committee Member, Blind Evaluation Framework For Fully Homomorphic Encryption And Privacy-Preserving Machine Learning. MS Completed. (April 2024).
2023	[M.24]	Du, Jinyu, Dissertation Committee Member, A Comparison Of Confidence Intervals In State Space Models. Phd Completed. (May 2023).
	[M.23]	Sitton, J., Dissertation Committee Member, Indirect Bridge Monitoring Using Crowdsourced Smartphone Data From Passing Vehicles. Phd Completed. (April 2023).
	[M.22]	Aman, J., Dissertation Committee Member, Three Tales On Equity In Transportation: Access, Gender, And Mobility Segregation. Phd Completed. (April 2023).
	[M.21]	Tian, H., Dissertation Committee Member, Exploring Protein Conformations And Functions Through Molecular Dynamics Simulations And Machine Learning. Phd Completed. (April 2023).
	[M.20]	Wolf, Z., MS Committee Member, Data Leakage In Isolated Virtualized Enterprise Computing Systems. Phd Completed. (April 2023).
	[M.19]	Oshana, R. Dissertation Committee Member, Real Time Detection And Suppression Of Malicious Attacks Using Machine Learning And Processor Core Events. Phd Completed. (April 2023).
	[M.18]	Yang, C. Dissertation Committee Member, Attention-Based Multiple Instance Classification Model For Word-Level Context-Based Sentiment Analysis. Prospectus In Dedman, Dept. Of Statistics. (Proposed February, 2023; Phd Completed August 2023).
2022	[M.17]	Kan, S., Dissertation Committee Member, Towards Multipronged On–Chip Memory And Data Protection From Verification To Design And Test, Completed. (November 2022)
	[M.16]	Moghadam, A.S., Dissertation Committee Member, Leveraging Crowdsourced Navigation Data In Roadway Pluvial Flash Flood Prediction, Phd Completed. (August 2022)
	[M.15]	Li, Z., Dissertation Committee Member, Civil And Environmental Engineering Department, "Equity Of Urban Neighborhood Infrastructure: A Data-Driven Assessment", Phd Completed. (April 2022).
2021	[M.14]	Badi, M., Dissertation Committee Member, Engineering-Electrical Engineering Department, "Characterization Of Uav-Based Wireless Channels With Diverse Antenna Configurations". (November 2021).
	[M.13]	Zhang, X., Dissertation Committee Member, Engineering-Electrical Engineering Department, "Context-Aware Sensing And Fusion For Structural Health Monitoring And Night Time Intelligent Transportation System", Completed. (January 2021).

[M.12]	Taylor, M., Dissertation Committee Member, Engineering-Electrical Engineering Department, "Enhanced Security Utilizing Side Channel Data Analysis", Completed. (November 2021).		
	[M.11]	Verma, N., Dissertation Committee Member, Dedman-Chemistry Department, "Application Of Artificial Intelligence And Machine Learning In Chemistry", Completed. (June 2021).	
2020	[M.09]	Ouellette, M., Dissertation Committee Member, Engineering-Computer Science And Engineering Department, "Enhancing Age-Related Macular Degeneration Oct Image Grading By Integrating Crowdsource-Based Probability Map Inputs Into Deep Neural Networks", Proposal. (December 10, 2020).	
	[M.08]	Ellington, W. L., Master's Thesis Committee Member, "Heuristic-Based Threat Analysis Of Register-Transfer-Level Hardware Designs". (August 2020).	
2017	[M.07]	Taylor, M., Master's Thesis Committee Member, ENGINEERING-COMPUTER SCIENCE AND ENGINEERING Department, "Ransomware Detection Using Machine Learning And Physical Sensor Data", Completed. (December 16, 2017).	
	[M.06]	Thainiam, P., Dissertation Committee Member, Engineering-Engineering Management Info & Systems Department, "Local Search Strategies For The Seriation Problem", Completed. (January 1, 2017 - May 20, 2017).	
	[M.05]	Mccarthy, A., Master's Thesis Committee Member, ENGINEERING-COMPUTER SCIENCE AND ENGINEERING Department, "Gridlock In Networks: The Leximin Method For Hierarchical Community Detection", Completed. (May 20, 2017).	
	[M.04]	Alhelahy, S., Dissertation Committee Member, Engineering-Computer Science And Engineering Department, "Detecting A Trojan Die In Three-Dimensional Stacked Integrated Circuits", Completed. (April 20, 2017).	
2016	[M.03]	Shaiba, H., Dissertation Committee Member, Engineering-Computer Science And Engineering Department, "Machine Learning Methods For Tropical Cyclone's Intensity Prediction: Accounting For Rapid Intensification Events". (May 14, 2016).	
2015	[M.02]	Drew, J., Dissertation Committee Member, Engineering-Computer Science And Engineering Department, "Multicore Machine Learning For Big Data Applications In Bioinformatics And Cybercrime". (November 1, 2015).	
2013	[M.01]	Nagar, A., Dissertation Committee Member, Engineering-Computer Science And Engineering Department, "A Quasi-Alignment Based Framework For Fast Discovery Of Conserved Regions And Classification Of DNA Fragments", Completed. (September 1, 2013 - November 30, 2013).	

7 APPENDIX

A10. APPENDIX, EXTERNAL FUNDING AND SPONSORED RESEARCH PRIOR TO PROMOTION

This section contains funding descriptions that are restricted by the International Traffic in Arms Regulations (ITAR). Other projects may be under NDA. As such, further information about the research may not be available.

Year		Detailed Information	Role and Share
		======================Promotion to Associate Professor with Tenure====================== Funding as Assistant Professor: $2.7M (My Share: $1.25M)	
2019	[EF.14]	*Raytheon Information and Intelligence Systems (Private Sponsored) *PI*: Mitch Thornton, *Co-PIs*: **Eric C. Larson** *Title*: "Cyber Security Research Projects" *Amount*: $40,000, *Duration*: August 2019—March 2020	Role: Co-PI Share: $20,000
2019	[EF.13] PI	*Amida Technolgies (Private Sponsored) *PI*: **Eric C. Larson**, *Co-PIs*: Jennifer Dworak *Title*: "Trojan Placement through Estimation of Criticality and Observability with Recurrent Neural Networks" *Amount*: $60,000, *Duration*: June 2019—March 2020	Role: PI Share: $40,000

2018	[EF.12]	*Raytheon Information and Intelligence Systems (Private Sponsored) *PI*: Mitch Thornton, *Co-PIs*: **Eric C. Larson** *Title*: "Third-Party Data Supply Chain Integrity Enhancement" *Amount*: $75,000, *Duration*: December 2018—December 2019	Role: Co-PI Share: $20,000
2018	[EF.11] PI	*Raytheon Information and Intelligence Systems (Private Sponsored) *PI*: **Eric C. Larson**, *Co-PIs*: Mitch Thornton *Title*: "Investigation of Unconventional Biometrics with Mobile Devices " *Amount*: $75,000, *Duration*: December 2018—December 2019	Role: PI Share: $50,000
2018	[EF.10] PI	Department of Homeland Security *Shared PI*: Bruce Gnade, **Eric C. Larson**, *Co-PIs*: Joseph Camp, Manuel Quevedo (UTD) *Title*: "Radiation Background Characterization for Enhanced Anomaly Detection" *Amount*: $1,505,787, *Duration*: September 2018—May 2024	Role: Joint-PI Share: $700,000
2018	[EF.09] PI	*L3 Link (Private Sponsored) *PI*: **Eric C. Larson**, *Co-PIs*: Suku Nair *Title*: "Human Perf. Optimization using Biometric Indices: Validation for Targeted Pilot Population" *Amount*: $65,000, *Duration*: September 2018—December 2018	Role: PI Share: $60,000
2018	[EF.08] PI	*Raytheon Information and Intelligence Systems (Private Sponsored) *PI*: **Eric C. Larson**, *Co-PIs*: Mitch Thornton *Title*: "Unconventional Biometrics with Mobile Devices and Machine Learning" *Amount*: $100,000, *Duration*: May 2018—May 2019	Role: PI Share: $70,000
2018	[EF.07]	*Raytheon Information and Intelligence Systems (Private Sponsored) *PI*: Mitch Thornton, *Co-PIs*: **Eric C. Larson** *Title*: "IoT Device Sensor Arrays" *Amount*: $130,000, *Duration*: Jun. 2018—Mar. 2019	Role: Co-PI Share: $60,000
2018	[EF.06]	*Raytheon Information and Intelligence Systems (Private Sponsored) *PI*: Mitch Thornton, *Co-PIs*: **Eric C. Larson** *Title*: "Network Discovery Research" *Amount*: $100,000, *Duration*: May 2018—May 2019	Role: Co-PI Share: $40,000
2017	[EF.05]	*Raytheon Information and Intelligence Systems (Private Sponsored) *PI*: Mitch Thornton, *Co-PIs*: **Eric C. Larson**, Fred Chang *Title*: "IoT Distributed Sensors Research" *Amount*: $100,000, *Duration*: Sep. 2017—May. 2018	Role: Co-PI Share: $40,000
2017	[EF.04] PI	DigiDoc Technologies (Private Sponsored) *PI*: **Eric C. Larson** (100%) *Title*: "Data collections and algorithmic development for blood oxygenation measurement using commodity smartphone cameras" *Amount*: $29,110, *Duration*: Jun. 2017—Jun. 2018	Role: PI Share: $29,110
2017	[EF.03] PI	*Raytheon Information and Intelligence Systems (Private Sponsored) *PI*: **Eric C. Larson**, *Co-PIs*: Mitch Thornton, Fred Chang *Title*: "Mission Value Calculus Engine in Support of Decision Making and Asset Allocation" *Amount*: $100,000, *Duration*: Sep. 2017—May. 2018	Role: PI Share: $70,000
2016	[EF.02] PI	DigiDoc Technologies (Private Sponsored), Undergraduate Fellowship *PI*: **Eric C. Larson** *Title*: "Undergraduate Fellowship in CS with Speci. in Asthma Management using Smartphones " *Amount*: $10,000, *Duration*: Jan. 2016—May 2016	Role: PI Share: $10,000
2015	[EF.01]	National Institutes of Health (NIH), Exploratory/Developmental Bioengineering Research Grants (EBRG) [R21] *PI*: James Taylor (UW), *Co-PIs*: **Eric C. Larson**, James Stout (UW), Shwetak Patel (UW, advisor) *Title*: "An Evaluation of a Novel Technology to Assess Neonatal Jaundice" *Total Amount*: $428,315, *Duration*: Apr. 2015—Mar. 2018	Role: Co-PI Share: $40,000

A15. APPENDIX, FULL LISTING OF CONFERENCE PUBLICATIONS

For a more interactive view of publications, including filtering, search, and varying categorizations, please see my website publications page: https://s2.smu.edu/~eclarson/publications.html

* == **Refers to Student Authors or Post-doctoral Researchers**

2026 [C.86] D. Baker, G. Sirganci,* P. Foster,* H. Briggs,* Z. Wu,* and **E. C. Larson** (2026), Predictive Validity of an Expressive Vocabulary Science Measure for Second and Third Grade Students, *Society for the Scientific Study of Reading* (SSSR 2026). Rotterdam, Netherlands. DOI: *To Appear*.
(Impact Factor: 2.4,   H Index: 82)

[C.85] Pan, Y.*, Ketterlin-Geller, L. R., Tseng, C.*, Klinkert, L. J.*, **Larson, E. C.**, & Clark, C. (2026, April 08-12). Prior gaming experience on students' computational thinking in digital game-based learning [*Roundtable presentation*]. *American Educational Research Association Annual Meeting*, Los Angeles, CA. *To Appear.*
(Impact Factor: 2.4,   H-5 Index: 54)

[C.84] C. Harper,* E. Laird,* M. Thornton, and **E. C. Larson** (2026), Differentiable Resizing: Resolution Layers, *International Conference on Acoustics, Speech, and Signal Processing* (ICASSP 2026). Barcelona, Spain. pp 1-5. DOI: *To Appear*.
(Impact Factor: 4.8,   H-5 Index: 137)

[C.83] J. Sylvester*, M. Thornton, M.A. Thornton, and **E.C. Larson**, (2026). Lag Order Selection for Granger Causality Estimation. *Computing Conference 2026*. Springer LNNS. July, London, UK. *To Appear.*
(H-5 Index: 35)

[C.82] J. Sylvester* (*presenter*), Micah A. Thornton, **E.C. Larson** and M.A. Thornton, (2026) "Detecting Predictive Dependencies in Random Bitstreams" in proc. *International Cryptographic Modules Conference* (ICMC), (refereed abstract for presentation/talk), April 20-23, 2026. *To Appear*.
(H-5 Index: 24)

[C.81] C. Peters*, M. Watts*, M. Thornton, **E.C. Larson** (2026). Geometry Adaptive Deep Q-Network for UAV-Based Emitter Localization in Cluttered RF Environments. 47th *IEEE Aerospace Conference* (AeroConf). Big Sky, MT, USA, March 2026. *To Appear.*
(H-5 Index: 35, H-Index: 70)

2025 [C.80] Y. Zhang, Y. Wang*, Y. Zhang, **E. C. Larson**, F. Sui, and D. Shi, "On the Potential of Digital Twins for Distribution System State Estimation with Randomly Missing Data in Heterogeneous Measurements," in *Proc. 2025 IEEE PES General Meeting*, Austin, TX, pp. 1-5, 2025.
(H-5 Index: 64)

[C.79] C. Harper*, L. Wood*, P. Gersoft, M. Thornton, and **E. C. Larson,** (2025). Scaling Continuous Kernels with Sparse Fourier Domain Learning. Applied Imagery and Pattern Recognition (AIPR). *Springer's Lecture Notes in Computer Science*.
(H-5 Index: 18)

[C.78] C. Peters*, M. Watts*, M. Thornton, **E.C. Larson** (2025). Decentralized Q-Learning for Emitter Localization with Consensus Policy Selection. 59th *Asilomar Conference on Signals, Systems, and Computers* (Asilomar). October 2025, CA, USA.
(H-5 Index: 33, H-Index: 88)

[C.77] N. Hooman*, Z. Wu*, **E.C. Larson**, and M. Gupta (2025). Equitable Electronic Health Record Prediction with FAME: Fairness-Aware Multimodal Embedding. *International Conference on Machine Learning for Healthcare*. August 2025, Rochester, MN.
(H-5 Index: 29)

[C.76] A. Sinha*, D. Young, **E. C. Larson**, M. Thornton, and (2025). MUSIC Spectra Using Cayley Graphs of Multiple-Valued Signals. *IEEE 55th International Symposium on Multiple-Valued Logic (ISMVL)*. June, Toronto, Canada.

[C.75] M. Lee, W. Flinchbaugh, **E. C. Larson** and M. Thornton, (2025). Effects of Redundant LiDAR Sensors on Object Hiding Attacks in Autonomous Driving Systems. *IEEE Computer Society Signature Conference on Computers, Software, and Applications (COMPSAC 2025)*. July8-11, Toronto, Canada.
(H-5 Index: 29, H-Index: 59)

[C.74] J. Sylvester*, M. Thornton, J. Henderson*, M.A. Thornton, and **E. C. Larson** (2025). Granger-inspired Test for Randomness in Bitstreams. *Reed Muller Workshop on Function Representations and their Application*. June 8th, Toronto, Canada.

[C.73] Y. Wang*, Z. Wu*, J. Nese, A. Kamata, and **E.C. Larson**, (2025). A Unified Model for Reading Fluency and Prosody. *International Conference on Acoustics, Speech, and Signal Processing* (ICASSP 2025). Hyderbad, India. pp 1-5. DOI: 10.1109/ICASSP49660.2025.10888858
(Impact Factor: 4.8,   H-5 Index: 129)

[C.72] D. Young, **E. C. Larson** and M. Thornton, (2025). AI-Assisted Outcome Engineering for Mapping Natural Language to Radar Configuration Files. *IEEE Dallas Circuits and Systems Conference* (DCAS 2025).
(H-5 Index: 19)

[C.71] D. Young, M. Thornton, and **E.C. Larson**, (2025). Prompt Engineering for Detecting Phishing. *Assurance and Security for AI-enabled Systems. SPIE Defense + Commercial Sensing*. https://spie.org/defense-commercial-sensing/presentation/Prompt-Engineering-for-Detecting-Phishing/13476-20
(H-5 Index: 21)

[C.70] G. Mongaras*, T. Dohm*, and **E.C. Larson**, (2025). Cottention: Linear Transformers with Cosine Attention. *Computing Conference 2025*. Springer LNNS. July, London, UK.
Awarded Best Paper
(H-5 Index: 30)

[C.69] Pan*, Y., Tseng*, C., Klinkert*, L. J., Ketterlin-Geller, L. R., **Larson, E. C**., & Clark, C. (2025, April 23-27). Play to learn: Improving middle school students' computational thinking through game-based learning. *American Educational Research Association Annual Meeting*, Denver, CO, US.
(Impact Factor: 3.43,   H-5 Index: 44)

[C.68] Pan*, Y., Tseng*, C., He, H., Ketterlin-Geller, L. R., **Larson, E. C.,** & Clark, C. (2025, April 23-27). Teachers as informants in participatory design for game-based learning [Poster presentation]. *American Educational Research Association Annual Meeting*, Denver, CO, US.
(Impact Factor: 3.43,   H-5 Index: 44)

2024   [C.67] Tseng, C.*, Y. Pan*, J. Klinkert*, L. Ketterlin-Geller, **E.C. Larson**, and C. Clark, (2024). A qualitative look at fostering computational thinking within a game-based learning environment. In R. Lindgren, T. I. Asino, E. A. Kyza, C. K. Looi, D. T. Keifert, & E. Suárez. (Eds.), *Proceedings of the 18th International Conference of the Learning Sciences - ICLS 2024.* (pp. 2263-2264). Buffalo, USA: International Society of the Learning Sciences.
(H-5 Index: 18)

[C.66] S. Gibbs*, V. Tanner*, S. Scielzo, and **E.C. Larson** (2024). Towards a Real-Time Model of Trust in Human-Machine Team Paradigms. *Interservice/Industry Training, Simulation, and Education Conference* (I/ITSEC 2024).
Selected for Conference Wide Presentation
(H-5 Index: 15)

[C.65] Jessie M. Henderson*, Elena R. Henderson*, Hiva Shahoei*, William V. Oxford, **Eric C. Larson**, Duncan L. MacFarlane and Mitchell A. Thornton (2024). Designing a Photonic Physically Unclonable Function Having Resilience to Machine Learning Attacks. *Quantum Information Science, Sensing, and Computation XVI. Invited Paper to SPIE.*

[C.64] Jessie M. Henderson*, Elena R. Henderson*, Clayton A. Harper*, Hiva Shahoei*, William V. Oxford, **Eric C. Larson**, Duncan L. MacFarlane and Mitchell A. Thornton (2024). A Photonic Physically Unclonable Function's Resilience to Multiple-Valued Machine Learning Attacks. *IEEE International Symposium on Multiple-Valued Logic* (ISMVL).
(H-5 Index: 10)

[C.63] C. Harper*, M. Thornton, and **E. C. Larson,** (2024). Learnable Statistical Moments Pooling for Automatic Modulation Classification. *2024 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Seoul, Korea, Republic of, 2024, pp. 8981-8985, doi: 10.1109/ICASSP48485.2024.10446295.
(Impact Factor: 4.8,   H-5 Index: 123)

[C.62] Y. Wang*, Z. Wu*, J. Nese, A. Kamata, V. Nilabh*, and **E.C. Larson**, (2024). Improving Oral Reading Fluency Assessment through Sub-sequences Matching of Acoustic Word Embeddings. *2024 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Seoul, Korea, Republic of, 2024, pp. 10766-10770, doi: 10.1109/ICASSP48485.2024.10447029.
(Impact Factor: 4.8,   H-5 Index: 123)

[C.61] M. Lee*, C. Harper*, M. Thornton, and **E. C. Larson** (2024). Impacts of Synthetically Generated Data on Trackformer-based Multi-Object Tracking. *IEEE Applied Imagery and Pattern Recognition Workshop (AIPR 2024)*. DOI: 10.1109/AIPR60534.2023.10440703
(Impact Factor: 0.90,   H-5 Index: 14)

[C.60] J. Sylvester*, M. Lee*, M. Thornton, and **E. C. Larson** (2024). Using Time Series Clustering to Inform Multimodal CNN Architectures. *IEEE Applied Imagery and Pattern Recognition Workshop (AIPR 2024)*. DOI: 10.1109/AIPR60534.2023.10440715
(Impact Factor: 0.90,   H-5 Index: 14)

2023   [C.59] Pan*, Y., Adams, E. L., Foster*, P., Klinkert*, J. L., Goff*, E., Tseng*, C., Ketterlin-Geller, L. R., **Larson, C. E.**, & Clark, C. (2023). Fostering middle school students' computational thinking competency in game-based learning. *Association for Education Communications & Technology International Convention (AECT)*, Orlando, Florida & Virtual, October 2023.

[C.58] Micah A. Thornton (presenter), J. Sylvester*, M. Lee*, W.V. Oxford, J. Gable, **E.C. Larson** and M.A. Thornton (2023), Assessing Random Bit Generator Quality with Granger Causality Extensions, in proc. *International Cryptographic Modules Conference (ICMC)*, (refereed abstract for presentation/talk), September 20-22, 2023.
(H-5 Index: 23)

[C.57] C. Sayre*, **E. C. Larson**, G. DiLegro*, J. Camp, and B, Gnade (2023). Radiation Anomaly Detection Using an Adversarial Autoencoder. *Annual Asilomar Conference on Signals, Systems, and Computers*, (Asilomar 2023).
(Impact Factor: 1.01,   H-5 Index: 30)

[C.56] Z. Wu*, **E. C. Larson**, M. San, D. Baker, N. Gage, A. Kamata, (2023). Towards Scalable Vocabulary Acquisition Assessment with BERT. *ACM International Conference on Learning at Scale* (L@S 2023).
(H-5 Index: 25)

[C.55] A. Sinha*, J. Henderson*, E. Henderson*, M. Thornton, and **E. C. Larson**, (2023). A programmable true random number generator using commercial quantum computers. *SPIE SPIE Defense + Commercial Sensing: Quantum Information Science, Sensing, and Computation* (SPIE-QISSC 2023). 15 pgs.

[C.54] Adams, E. L., Foster, P. D.*, Klinkert, L. J.*, Goff, E.*, Tseng, C.*, Ketterlin-Geller, L. R., **Larson, E. C.,** & Clark, C. (2023). *Using a new version of Minecraft to promote computational thinking learning opportunities: Investigating middle grades student outcomes*. American Educational Research Association Place-based conference (AERA), Chicago, IL.
(Impact Factor: 3.43,   H-5 Index: 44)

[C.53] Z. Wolf*, M. Thornton, and **E. C. Larson,** (2023). Data Leakage in Isolated Virtualized Enterprise Computing Systems. *International Conference on Information Systems Security and Privacy* (ICISSP 2023). 12 pgs. (H-5 Index: 21)

[C.52] Kuo Wang*, Xin Qiao*, George Sammit*, **Eric C. Larson**, Joe Nese, and Akihito Kamata (2023, April). Improving Automated Scoring of Prosody Using Deep Learning Algorithm. *Presented at National Council for Measurement in Education (NCME)*, Chicago, IL.
(Impact Factor: 1.188)

[C.51] Xin Qiao*, Akihito Kamata, **Eric C. Larson**, Kuo Wang*, and Srunya Somsong (2023, April). Detailed Prosody Report for Oral Reading Fluency Assessment via Machine Learning. *Presented at National Council for Measurement in Education (NCME)*, Chicago, IL.
(Impact Factor: 1.188)

[C.50] Yihao Wang*, **Eric C. Larson,** Joe Nese, and Akihito Kamata (2023, April). Sub-sequence Matching Algorithm for Improving Automated Speech Recognitions for ORF Assessment. *Presented at National Council for Measurement in Education (NCME)*, Chicago, IL.
(Impact Factor: 1.188)

2022	[C.49]	Darrel Young*, Mark Bradbury*, Josh Sylvester*, **Eric C. Larson,** Mark Bigham*, and Mitch Thornton (2022). Current Status and Overview of SMU-DDI Cyber Autonomy Range. *IEEE Applied Imagery and Pattern Recognition Workshop* (AIPR 2022). (H-5 Index: 12)
	[C.48]	H. Tian*, X. Jiang*, H. La Force*, S. Xiao, **E. C. Larson** and P. Tao (2022). LAST: Latent Space Adaptive Sampling for Protein Trajectories. Thirty Ninth Annual International Conference on Machine Learning (ICML), Special Workshop on AI4Science, Presented. (Impact Factor: 18.48, H-5 Index: 204, 19th highest ranked publication venue, via Google Metrics 2022)
	[C.47]	Mike Taylor*, **E. C. Larson,** and Mitch Thornton (2022). General Process Detection Through Physical Side Channel Characterization. *IEEE International Conference on Systems* (SysCon 2022). (H-5 Index: 19)
	[C.46]	G. Sammit*, Z. Wu*, Y. Wang*, Z. Wu*, A. Kamata, J. Nese, and **E. C. Larson** (2022). Automated Prosody Classification for Oral Reading Fluency with Quadratic Kappa Loss and Attentive X-vectors. *International Conference on Acoustics, Speech, and Signal Processing* (ICASSP 2022). Pgs 3613-3617. (Impact Factor: 4.96, H-5 Index: 96)
	[C.45]	N. Crothers*, Y. Sinha*, S. Scielzo, and **E.C. Larson** (2022). "Real-Time Situation Awareness Assessment for Pilots via Machine Learning: Constructing an Automated Classification System." *Modeling & Simulation* (MODSIM) World 2022. (Impact Factor: 1.60, H-5 Index: 17)
	[C.44]	Foster, P.*, Tseng, C.*, Klinkert, L. J.*, Adams, E. L., Ketterlin-Geller, L. R., **Larson, E. C.,** & Clark, C. (2022, April). *Assessing middle school student computational thinking in an immersive game environment.* National Council for Measurement in Education (NCME), San Diego, CA. (Impact Factor: 1.0)
	[C.43]	Tseng, C.*, Foster, P. D.*, Adams, E. L., Ketterlin-Geller, L. R., **Larson, E. C.,** Luo, V., Klinkert, L. J., & Clark, C. (2022). *Incorporating teacher voice in the development of game-based learning environments.* American Educational Research Association (AERA) 2022, San Diego, CA. (Impact Factor: 2.46, H-5 Index: 38)
	[C.42]	M. Lee*, J. Sylvester*, S. Aggarwal*, M. Thornton, and **E.C. Larson** (2022). "Side Channel Identification using Granger Time Series Clustering with Applications to Control Systems." *International Conference on Information Systems Security and Privacy* (ICISSP 2022). pgs. 290-298 (H-5 Index: 13)
2021	[C.41]	Luo, V.*, Klinkert, L. J.*, Tseng, C.*, Foster, P. D.*, Adams, E. L., Ketterlin-Geller, L. R., Clark, C, and **Larson, E. C.**. (2021). A Multidisciplinary Approach To Designing Immersive Gameplay Elements for Learning Standard-Based Educational Content. *In CHI PLAY'21: Annual Symposium on Computer-Human Interaction in Play,* October, 2021. ACM, New York, NY, USA, 9 Pgs. (Impact Factor: 2.73, H-5 Index: 6 (young venue))
	[C.40]	J. Sylvester*, M. Lee*, M. J. Hornbach, M. Thornton, **E.C. Larson**, S. Aggarwal, M. Manga, S. Hurwitz, A. Calvert, S. Wilkinson, B. Miller, and Z. Smith (2021). Time Series Clustering using Granger Causality to Identify Time Series Applicable to Forecasting Internal Waves in Lake and Marine Environments. *American Geophysical Union Annual Meeting* (AGU21). *Accepted for Poster Presentation and Lightning Presentation.* December 2021. (Impact Factor: 4.26, H-5 Index: 33)
	[C.39]	C. Harper*, A. Sinha*, M. Thornton, and **E.C. Larson** (November 2021). "SNR-Boosted Automatic Modulation Classification." *Annual Asilomar Conference on Signals, Systems, and Computers,* Asilomar 2021. (H-5 Index: 30)
	[C.38]	A. Sinha*, M. Taylor*, N. Srirama*, T. Manikas, **E.C. Larson**, and M. Thornton, (2021). "Industrial Control System Anomaly Detection Using Convolutional Neural Network Consensus." 5th IEEE Conference on Control Technology and Applications (CCTA 2021). (H-5 Index: 20)

	[C.37]	M. Taylor*, **E.C. Larson**, and M. Thornton, (2021). "Rapid Ransomware Detection Through Side Channel Exploitation." 2021 IEEE Conference on Cyber Security and Resilience (IEEE-CSR 2021). (H-5 Index: 13)
	[C.36]	E. Tsang*, P. Foster, E. Adams, L. Ketterlin-Geller, **E.C. Larson**, and C. Clark (2021). "A Standard Decomposition Process to Inform the Development of Game-Based Learning Environments Focused on Computational Thinking." International Conference of Computational Thinking and STEM Education 2021 (CTE-STEM 2021). (no metrics available, < 4 years)
	[C.35]	R. Oshanna*, M. Thornton, **E.C. Larson**, and X. Romague (2021). "Realtime edge processing detection of malicious attacks using machine learning and processor core events." 15th Annual IEEE International Systems Conference (SysCon 2021). (H-5 Index: 19)
	[C.34]	L. Wood* and **E.C. Larson** (2021). "Parametric Spectral Filters for Fast Converging, Scalable Convolutional Neural Networks." International Conference on Acoustics, Speech, and Signal Processing. ICASSP 2021. (Impact Factor: 4.96, H-5 Index: 96)
2020	[C.33]	C. Harper*, L. Lyons*, M. Thornton, and **E.C. Larson** (November 2020). "Enhanced Automatic Modulation Classification using Deep Convolutional Latent Space Pooling." Annual Asilomar Conference on Signals, Systems, and Computers, 2020. (H-5 Index: 30)
	[C.32]	S. Scielzo, J. Wilson*, and **E.C. Larson** (June 2020). "Towards the Development of an Automated, Real-Time, Objective Measure of Situation Awareness for Pilots." Interservice/Industry Training, Simulation, and Education Conference (I/ITSEC 2020). Overall Best Paper Winner, Platinum Paper (*Winner among all papers at conference*) (H-5 Index: 15)
	[C.31]	X. Ding* and **E.C. Larson** (2020). "Automatic RNN Cell Design for Knowledge Tracing using Reinforcement Learning." 2020 ACM Conference on Learning at Scale. (Impact Factor: 2.06, H-5 Index: 26)
2019	[C.30]	X. Ding* and **E.C. Larson** (2019). "Why Deep Knowledge Tracing has less Depth than Anticipated." 2019 Conference on Educational Data Mining. (Impact Factor: 1.57, H-5 Index: 27)
	[C.29]	T. Giallanza*, E. Gabrielsen*, M. Taylor*, **E.C. Larson,** and M. Thornton (2019). "Task Value Calculus: Fast Adaptive Optimization of Tasks for Multi-objective Diagrams." International Symposium on Multi-Valued Calculus. May 2019, Alberta, CA. (Impact Factor: 0.96, H-5 Index: 27)
	[C.28]	S. Douglas and **E.C. Larson** (2019). "Relationships Between Deep Learning and Linear Adaptive Systems." International Conference on Acoustics, Speech, and Signal Processing. ICASSP 2019. Invited Paper. (Impact Factor: 4.96, H-5 Index: 96)
2016	[C.27]	S. Kaiser*, A. Parks*, P. Leopard*, C. Albright*, J. Carlson*, M. Goel, D. Nassehi, **E.C. Larson.** (2016). Design and learnability of vortex whistles for managing chronic lung function via smartphones. In Proceedings of the 2016 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp 2016). Heidleberg, Germany. September 2016. Acceptance Rate: 26% (101/389) (Impact Factor: 3.10, H-5 Index: 47)
	[C.26]	M. Goel, E. Saba, M. Stiber, E. Whitmire, J.Fromm, **E.C. Larson,** G. Borriello, S. Patel (2016). Spirocall: Measuring lung function over a phone call. In Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems 2016 May 7 (CHI 2016). Nominated for Best Paper Acceptance Rate: 23% (565/2435) (Impact Factor: 2.73, H-5 Index: 101)

2015	[C.25]	S. Rafiqi*, C. Wangwiwattana*, E. Fernandez, S. Nair, and **E. C. Larson** (2015). "Work-in-progress, PupilWare-M : Cognitive Load Estimation Using Unmodified Smartphone Cameras." 12th Annual IEEE International Conference on Mobile Ad hoc and Sensor Systems (MASS 2015). Dallas, TX. October 2015. (H-5 Index: 18)
	[C.24]	S. Rafiqi*, C. Wangwiwattana*, J. Kim*, E. Fernandez, S. Nair, and **E. C. Larson** (2015). "PupilWare: Towards Pervasive Cognitive Load Measurement using Commodity Devices." 8th International Conference on Pervasive Technology Related to Assistive Environments (PETRA 2015). Corfu, Greece. July 2015. (H-5 Index: 3)
	[C.23]	K. Chen, S. Gupta, **E. C. Larson**, S. Patel (2015). "DOSE: Detecting User-Driven Operating States of Electronic Devices from a Single Sensing Point." Proceedings of the International Conference on Pervasive Computing (PerCom 2015). Saint Louis, Missouri. January 2015. (Impact Factor: 2.23, H-5 Index: 27)
2014	[C.22]	L. DeGreef, M. Goel, M. Seo, J. Stout, J. Taylor, **E.C. Larson**, and S. Patel (2014). "BiliCam: Using Mobile Phones to Measure Newborn Jaundice." Proceedings of the 16th International Conference on Ubiquitous Computing. (UbiComp 2014). Seattle, WA. September 2014. Nominated for Best Paper Acceptance Rate: 21% (94/454) (Impact Factor: 3.10, H-5 Index: 47)
	[C.21]	**E.C. Larson** (2014). "Consumer Centered Calibration for End-use Water Monitoring." Proceedings of the Workshop on Non-intrusive Load Monitoring 2014. Acceptance Rate: 30% (7/23)
2013	[C.20]	J. Lindsay, I. Jiang, **E.C. Larson**, R. Adams, S.N. Patel, & B. Hannaford (2013). "Good Vibrations: An Evaluation of Vibro-tactile Impedance Matching for Low Power Wearable Applications." Proceedings of UIST 2013. St. Andrews, UK, October 8-11, 2013. Acceptance Rate: 19% (60/317) (Impact Factor: 6.01, H-5 Index: 42)
	[C.19]	M. Aumi, S. Gupta, M. Goel, **E.C. Larson**, and S.N. Patel (2013). "DopLink: Using the Doppler Effect for Multi-Device Interaction." Proceedings of the 15th International Conference on Ubiquitous Computing. (UbiComp 2013). Zurich Switzerland. September 8-12, 2013. Acceptance Rate: 23% (92/394) (Impact Factor: 3.10, H-5 Index: 47)
	[C.18]	**E.C. Larson**, M. Goel, M. Redfield, G. Boriello, M. Rosenfeld, and S.N. Patel (2013). Tracking lung function on any phone. Proceedings of the 3rd ACM Symposium on Computing for Development, 29:1-29:2. 10.1145/2442882.2442917 (Impact Factor: 1.04, H-5 Index: 23)
2012	[C.17]	**E.C. Larson**, M. Goel, G. Boriello, S. Heltshe, M. Rosenfeld, and S.N. Patel (2012). "SpiroSmart: Using a Microphone to Measure Lung Function on a Mobile Phone." Proceedings of the 14th International Conference on Ubiquitous Computing (UbiComp 2012), Pittsburgh, USA, Sep 5-8, 2012. Nominated for Best Paper Acceptance Rate: 19% (58/301) (Impact Factor: 3.10, H-5 Index: 47)
	[C.16]	J. Froehlich, L. Findlater, M. Ostergren, S. Ramanathan, J. Peterson, I. Wragg, **E.C. Larson**, F. Fu, M. Bai, S.N. Patel, J. Landay (2012). "The Design and Evaluation of Prototype Eco-Feedback Displays for Fixture-Level Water Usage Data." Proceedings of the 2012 ACM Annual Conference on Human Factors in Computing Systems (CHI 2012), 2367-2376, Austin, TX May 2012. Best Paper Honorable Mention Acceptance Rate: 23% (363/1577) Acceptance Rate: 25% (Impact Factor: 2.73, H-5 Index: 101)
	[C.15]	T. Phan, **E.C. Larson**, S. Sohoni, and D. Chandler (2012). "Performance-Analysis-Based Acceleration of Image Quality Assessment." IEEE Southwest Symposium on Image Analysis and Interpretation (SSIAI 2012), 81-84, April 2012. (H-5 Index: 11)
	[C.14]	E. Saba, **E. C. Larson**, and S. N. Patel (2012). "DANTE Vision: In-Air and Touch Gesture Sensing for Natural Surface Interaction with Combined Depth and Thermal Cameras." First Annual Conference on Emerging Signal Processing Applications (ESPA 2012), 167-170, January 2012. Acceptance Rate: 38% (52/137)

2011	[C.13]	**E. C. Larson** T. Lee, S. Liu, M. Rosenfeld, and S. N. Patel (2011). "Accurate and Privacy Preserving Cough Sensing from a Low Cost Microphone." Proceedings of the 13th International Conference on Ubiquitous Computing (UbiComp 2011), 375-384, Beijing, China, September 2011.

2011   **[C.13]**   **E. C. Larson** T. Lee, S. Liu, M. Rosenfeld, and S. N. Patel (2011). "Accurate and Privacy Preserving Cough Sensing from a Low Cost Microphone." Proceedings of the 13th International Conference on Ubiquitous Computing (UbiComp 2011), 375-384, Beijing, China, September 2011.
Acceptance Rate 16.6% (50/302) (Impact Factor: 3.10,   H-5 Index: 47)

        [C.12]   **E.C. Larson**, J. Froehlich, E. Saba, T. Campbell, L. Atlas, J. Fogarty, S.N. Patel (2011). "A Longitudinal Study of Pressure Sensing to Infer Real-World Water Usage Events in the Home." Proceedings of the Ninth International Conference on Pervasive Computing (Pervasive 2011). 50-69, San Francisco, CA, June 12-15, 2011.
Acceptance Rate: 23.6% (22/93) (Impact Factor: 1.02,   H-5 Index: 47)

        [C.11]   **E.C Larson**, G. Cohn, S. Gupta, X. Ren, B. Harrison, D. Fox, S.N. Patel (2011) "HeatWave: Thermal Imaging for Surface user Interaction." Proceedings of the 2011 ACM Annual Conference on Human Factors in Computing Systems (CHI 2011), 2565-2574, Vancouver, Canada, May 7 - 12, 2011.
Best Paper Honorable Mention
Acceptance Rate: 25% (Impact Factor: 2.73,   H-5 Index: 101)

2010   **[C.10]**   T. Campbell, **E.C. Larson**, G. Cohn, J. Froehlich, R. Alcaide and S.N. Patel (2010). "WATTR: A Method for Self-Powered Wireless Sensing of Water Activity in the Home." In Proceedings of the 12th ACM International Conference on Ubiquitous Computing (UbiComp 2010). 169-172, Copenhagen, Denmark, September 2010.
Acceptance Rate: 19% (39/202) (Impact Factor: 3.10,   H-5 Index: 47)

        [C.09]   G. Cohn, S. Gupta, J. Froehlich, **E. C. Larson**, and S. Patel (2010). "GasSense: Appliance-Level, Single-Point Sensing of Gas Activity in the Home" Proceedings of the Eighth International Conference on Pervasive Computing (Pervasive 2010), 265-282, Helsinki, Finland, May 17-20.
Acceptance Rate: 17% (Impact Factor: 1.02,   H-5 Index: 47)

2009   **[C.08]**   J. Froehlich, **E. C. Larson**, C. Haggerty, T. Campbell, S. Patel, and J. Fogarty (2009). "HydroSense: Infrastructure-Mediated Single-Point Sensing of Whole Water Home Activity In Proceedings of the 11th ACM International Conference on Ubiquitous Computing (UbiComp 2009), Orlando, FL, Sep. 2009.
Nominated for Best Paper
Acceptance Rate: 12.4% (Impact Factor: 3.10,   H-5 Index: 47)

        [C.07]   **E. C. Larson** and D. M. Chandler (2009). "The Most Apparent Distortion: A Dual Strategy for Full Reference Image Quality," Proc. SPIE Image Quality and System Performance, 7242, January 2009.
(Impact Factor: 0.45,   H-5 Index: 23)

2008   **[C.06]**   **E. C. Larson** and D. Chandler (2008). "Unveiling relationships between regions of interest and image fidelity metrics." Visual Communications and Image Processing 2008 (VCIP 2008), 6822, 2008.
(Impact Factor: 0.44,   H-5 Index: 20)

        [C.05]   **E. C. Larson** and G. Yen (2008). "Facial feature tracking in dynamic bandwidth environments: a genetic approach," IEEE World Congress on Computational Intelligence (CEC 2008), 2819-2826, June 2008.
(Impact Factor: 0.73,   H-5 Index: 8)

        [C.04]   V. Kadiyala, S. Pinneli, **E. C. Larson**, and D. M. Chandler (2008). "Quantifying the Perceived Interest of Objects in Images: Effects of Size, Location, Blur, and Contrast," Proc. Human Vision and Electronic Imaging 2008 (HVEI 2008), San Jose, CA, January 2008.
(H-5 Index: 5)

        [C.03]   **E. C. Larson**, C. Vu, and D. Chandler (2008). "Can Visual Fixation Patterns Improve Image Fidelity Assessment?," Proc. of the International Conference on Image Processing (ICIP 2008), 2572-2575, 2008.
(Impact Factor: 2.08,   H-5 Index: 60)

        [C.02]   C. Vu, **E.C. Larson**, and D.M. Chandler (2008). Visual fixation patterns when judging image quality: Effects of distortion type, amount, and subject experience. In *Image Analysis and Interpretation, 2008. SSIAI 2008. IEEE Southwest Symposium on* (pp. 73-76). IEEE.
(H-5 Index: 11)

2007   **[C.01]**   **E. C. Larson** and D. Chandler (2007). "Explaining Crypsis and Information Content in the Mammalian Visual Pathway using Statistical Measures of Animal Camouflage," OSA Fall Vision Meeting 2007, January 2007.

A20. APPENDIX, OTHER PAPERS & PRE-PRINTS (*MINIMALLY* OR *NOT* PEER REVIEWED)

These publications refer to publications resulting from student projects in the SMU Master of Science in Data Science which are **internally reviewed at SMU,** or other sources with **only minimal or no peer review** (such as ArXiV paper posts and workshops). While these publications represent excellent projects that may be cited for their scholarly contributions, they **do not count toward peer-reviewed publications**.

2026	[O.26]	M. Lee*, W. Flinchbaugh*, and **E. C. Larson** (2026). AIS Trajectory Representation and Behavior Tracking. *Navy Applications of Machine Learning* (NAML 2026), San Diego, CA, March 2-5. *Selected for Presentation. To Appear*.
	[O.25]	A. Tiu*, J. Sylvester*, C. Eck, J. Eggers, C. Moody, P. Harris, and **E. C. Larson** (2026). From Telemetry to Intelligence: An Explainable Pipeline for Fishing Activity Characterization. *Navy Applications of Machine Learning* (NAML 2026), San Diego, CA, March 2-5. *Selected for Presentation. To Appear*.
2025	[O.24]	G. Mongaras*, and **E.C. Larson**, (2025). On the Expressiveness of Softmax Attention: A Recurrent Neural Network Perspective. *arXiv:2507.23632*; https://arxiv.org/abs/2507.23632 *Not Peer Reviewed*
	[O.23]	J. Sylvester, E.C. Larson, M. A. Thornton (2025). Evaluating Smart Interfaces for Increasing Situational Awareness Amongst ISR Operators. RTX ISaCTN Symposium, Tucson Arizona. *Minimally Peer Reviewed.*
2024	[O.22]	J. Tolan, M. Tolan, and E.C. Larson (2024). Using Chat-GPT to Automate Cosmetic Procedure Planning. American College of Surgeons, South Florida Chapter. *Minimally Peer Reviewed*.
	[O.21]	G. Mongaras*, T. Dohm*, and **E.C. Larson**, (2024). Cottention: Linear Transformers with Cosine Attention. *arXiv :240918747*; https://arxiv.org/abs/2409.18747 *Not Peer Reviewed*
	[O.20]	William Bjorndahl, Jack Easton, Austin Modoff, Joseph Camp, Prasanna Rangarajan and **E. C. Larson,** (2024). Digit Recognition using Multimodal Spiking Neural Networks. *arXiv :240900552*; 2024. https://arxiv.org/abs/2409.00552. *Not Peer Reviewed.*
	[O.19]	Clay Harper*, Luke Wood, Peter Gersoft, and **E. C. Larson,** (2024). Scaling Continuous Kernels with Sparse Fourier Domain Learning. *arXiv :240909875*; 2024. https://arxiv.org/abs/2409.09875 . *Not Peer Reviewed.*
2023	[O.18]	Andrew Havard*, Theodore Manikas, **E. C. Larson,** and Mitch Thornton (2023). CNN-Assisted Steganography -- Integrating Machine Learning with Established Steganographic Techniques. *arXiv :2304.12503*; 2023. http://arxiv.org/abs/2304.12503 *Not Peer Reviewed.*
2022	[O.17]	H. Tian, X. Jiang, S. Xiao, H. LaForce, **E. C. Larson** and P. Tao (2022). LAST: Latent Space Assisted Adaptive Sampling for Protein Trajectories. *arXiv :2204.13040*; 2022. https://arxiv.org/pdf/2204.13040 *Not Peer Reviewed.*
	[O.16]	Tseng, C.*, Foster, P. D.*, Klinkert, J.*, Adams, E. L., Clark, C., **Larson, E. C.,** & Ketterlin-Geller, L. R. (2022). *Using cognitive walkthroughs to evaluate students' computational thinking during gameplay*. Paper to be presented to the International Conference of the Mathematics Education for the Future Project, King's College, Cambridge University, UK. *Minimal Peer Review*
2021	[O.15]	H. Tian, X. Jiang, F. Trozzi, S. Xiao, **E. C. Larson** and P. Tao (2021). Exploring the protein conformational space with variational autoencoder. *ChemRXiv*. Cambridge: Cambridge Open Engage; 2021. https://chemrxiv.org/engage/chemrxiv/article-details/6149299187a02de46f4294ec *Not Peer Reviewed.*
	[O.14]	Klinkert*, L. J., Foster*, P. D., Adams, E. L., Clark, C., Ketterlin-Geller, L., **Larson, E.C.**, Tseng*, C-Y., and Luo*, V. (2021). *Building Student Computational Thinking using Online Gaming*. 2021 STEM for All Video Showcase. https://stemforall2021.videohall.com/presentations/1994 *Minimal Peer Review*
	[O.13]	Sisi Kang* and **E.C. Larson**. Automated Speech Recognition Scoring System to Enhance Child Computer Interaction in a Learning Module (2021). *SMU Journal of Undergraduate Research* (JoUR). *Minimal Peer Review*

	[O.12]	Jason S. Hoffman, Varun Viswanath, Xinyi Ding, Matthew J. Thompson, **E. C. Larson**, Shwetak N. Patel and Edward Wang. Smartphone Camera Oximetry in an Induced Hypoxemia Study. arXiv:2104.00038 http://arxiv.org/abs/2104.00038 (2021). *arXiv paper, not peer reviewed*.
	[O.11]	R. Mundada*, L. Nibhrat*, A. McCarthy*, R. Howell*, and **E.C. Larson**. AirWare: Utilizing Convolutional Architectures for In-Air Hand-Gesture Recognition with Multi-modal Audio Doppler and Infrared Signals. arXiv:2101.10245 http://arxiv.org/abs/2101.10245 (2021). *arXiv paper, not peer reviewed*.
	[O.10]	C. Wangwiwatanna, S. Aggarwal, and **E.C. Larson**. "Writers Gonna Wait: The Effectiveness of Notification to Initiate Aversive Action in Writing Procrastination." arXiv: 2101.10191 http://arxiv.org/abs/2101.10191 (2021). *arXiv paper, not peer reviewed*
	[O.09]	X. Ding* and **Larson, E.C.** (2021). "On the Interpretability of Deep Learning Based Models for Knowledge Tracing." *Workshop at Association for the Advancement of Artificial Intelligence*. AAAI 2021. *Minimal Peer Review, Invited Submission*
2020	[O.08]	Tseng, C., Ketterlin Geller, L.R., Clark, C., **Larson, E.C.** (2020). *STEM+C educator advisory panel* (Tech Rep. No 20-18). Dallas, TX: Southern Methodist University, Research in Mathematics Education.
2019	[O.07]	X. Ding*, Z. Raziei*, **E.C. Larson**, E. Olinick, P. Krueger, and M. Hahsler. "Swapped Face Detection using Deep Learning and Subjective Assessment." *arXiv preprint* arXiv:1909.04217 (2019). *arXiv paper, not peer reviewed*
	[O.06]	Verma, Niraj*, Xingming Qu*, Francesco Trozzi, Yunwen Tao, Mohamed Elsaied*, E.C. Larson, and Elfi Kraka. "SSnet-Secondary Structure based End-to-End Learning model for Protein-Ligand Interaction Prediction." *bioRxiv* (2019). *arXiv paper, not peer reviewed*.
2018	[O.05]	Z. Raziei, X. Ding*, **E.C. Larson**, M. Hahsler, P. Krueger, and E. Olinick. "Deep Convolutional Networks for Forgery Classification and Anomaly Detection." INFORMS 2018. *Minimal Peer Review*
	[O.04]	Jessica Wheeler*, Jean Jecha*, Manjula Kottegoda*, Sharon Teo*, Julie Fast and **E.C. Larson** (2018). "Bipolar Mania Eye Image Classification." SMU Data Science Review, Vol. 1. March 2018. *https://scholar.smu.edu/datasciencereview/vol1/iss1/1 Minimal Peer Review*
	[O.03]	Karen Clark*, Mridul Jain*, Araya Messa*, Vinh Le*, and **E.C. Larson** (2018). "Open Cycle: Forecasting Ovulation for Family Planning." SMU Data Science Review, Vol. 1. March 2018. *https://scholar.smu.edu/datasciencereview/vol1/iss1/2 Minimal Peer Review*
	[O.02]	Claire Chu*, Bill Kerneckel*, Nathan Mowat*, Christopher Woodard*, and **E.C. Larson** (2018). "Comparative Study: Reducing Cost to Manage Accessibility with Existing Data." SMU Data Science Review, Vol. 1. March 2018. *https://scholar.smu.edu/datasciencereview/vol1/iss1/5 Minimal Peer Review*
	[O.01]	Andrew Abbott*, Alex Deshowitz*, Dennis Murray*, and **E.C. Larson** (2018). "WalkNet: A Deep Learning Approach to Improving Sidewalk Quality and Accessibility." SMU Data Science Review, Vol. 1. March 2018. *https://scholar.smu.edu/datasciencereview/vol1/iss1/7 Minimal Peer Review*