CURRICULUM VITAE

Tinoosh Mohsenin

Associate Professor
Computer Science and Electrical Engineering Department
Information Systems Department (secondary)
Director of Energy Efficient High Performance Computing (EEHPC) Lab
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Live Demos and News from funded projects
Google Scholar Citations: 3747, h-index:32, i10-index:87

Education

PhD in Electrical and Computer Engineering   11/2010
University of California, Davis, CA

M.S. in Computer Engineering   05/2003
Rice University, Houston, TX

B.S. in Electrical Engineering   05/1999
Sharif University of Technology, Tehran, Iran

Professional Experience

Associate Professor   06/2018-present
University of Maryland Baltimore County, Computer Science and Electrical Engineering Department

Affiliate Associate Professor   01/2022-present
University of Maryland Baltimore County, Information Systems Department

Senior Fellow   08/2018-08/2019
Army Research Lab, Human Research and Engineering (HRED), Aberdeen Proving Ground

Assistant Professor   01/2011-05/2018
University of Maryland, Baltimore County, Computer Science and Electrical Engineering Department

Graduate Research Assistant   09/2004-11/2010
University of California Davis, Electrical and Computer Engineering Department

Graduate Research Assistant   08/2001-11/2003
Rice University, Electrical and Computer Engineering Department

Research Intern   05/2002-09/2002
Nokia Research Center, Irving, TX

Awards and Honors

Featured in Baltimore CBS News WJZ TV in AI Series and UMBC News, February 2023

Selected as Female Associate Professor Cohort VI of the ADVANCE Leadership at UMBC, October 2022

First-placed Award ARL Sponsored Hackathon and Presentation in Human-Guided System Adaptation (HSA) Science Challenge and Hackathon Week. Columbia University, NY, August, 2022

ACM Service Recognition Award for contributions as General Chair for the 30th edition of the ACM Great Lakes Symposium on VLSI (GLSVLSI), June 2021.

ISSCC 2020 Outstanding Evening Session Award for co-organizing an evening session entitled "The Smartest Designer in The Universe", 67th ISSSC Conference, February 2020

ISSCC-SRP Best Poster and Demo Student Research Preview Award, 67th ISSSC Conference, February 2020

ACM Service Recognition Award for contributions as Technical Program Chair for the 29th edition of the ACM Great Lakes Symposium on VLSI (GLSVLSI), May 2019

Army Research Lab Senior Fellowship, August 2018

National Science Foundation (NSF) CAREER Award, March 2017

Best Paper Honorable Mention Award IEEE 50th ISCAS Conference, May 2017

Best Paper Honorable Mention Award, Neural Systems and Applications Technical Committee of IEEE Circuits and Systems Society, May 2017

Best Paper Award ACM GLSVLSI Conference, May 2016

External Funding

Laboratory for Physical Sciences (PI) "Metareasoning for On-The-Fly optimal selection of models in Autonomous Systems", **Total: $143,150,** 02/15/2023-09/30/2024

Army Research Lab (PI, Collaborative), "Metareasoning to Improve Team Performance". U.S. Army Grant No. W911NF2220116, **Total: $100,000.** 05/25/2023-05/24/2024

Army Research Lab (PI, Collaborative), "Sense, Reason, Act: A Brain-inspired Neuro-Symbolic Agent Architecture". Cycle 4 Strengthening Teamwork for Robust Operations in Novel Groups (STRONG), U.S. Army Grant No. W911NF2220116, **Total: $100,000.** 07/30/2022-07/29/2023

Army Research Lab (PI, Collaborative) "AI Models for Real Time Situational Awareness". U.S. Army Grant No. W911NF2120076 (through the Center for Real Time Sensing and Autonomy--CARDS), **Total: $600,000, My Share: $200,000**. November 2021-October 2023.

Army Research Lab (PI, Collaborative) "Human-Machine Teaming". U.S. Army Grant No. W911NF2120076 (through the Center for Real Time Sensing and Autonomy--CARDS), **Total: $600,000**, **My Share: $300,000.** November 2021-October 2023.

Army Research Lab (Co-PI, Collaborative) "Low Power IoBT Testbed". U.S. Army Grant No. W911NF2120076 (through the Center for Real Time Sensing and Autonomy--CARDS), **Total: $500,000, My Share: $100,000.** May 2021-May 2022.

Accelerated Translational Incubator Pilot for the Institute for Clinical and Translational Research (ICTR) (PI-Collaborative), "COVID-Matter: A Scalable Multimodal Sensory Machine Learning Framework for COVID-19 Diagnosis and Pandemic Prevention", Direct Cost: $30,000, 05/1/2021-04/30/2022

DARPA CREATE (Co-PI, Collaborative), "Multi-Agent Autonomous Learning and Context Reasoning", **Total: $970,248, My share: $323,416**, 11/28/2019-12/27/2022

Army Research Lab (PI) "Human-in-the-Loop Model Refinement for Efficient Deep Reinforcement Learning", **Total: $237,846,** 07/01/2018-12/31/2021

National Science Foundation (PI), AWARD #1652703 Title: "CAREER: DeepMatter: A Scalable and Programmable Embedded Deep Neural Network, **Total: $475,104,** 05/01/2017-04/31/2024

Army Research Lab (Co-PI, Collaborative) "RF-Photonic Research for Position Navigation Timing", **Total: $373,000, My share: $186,500,** 09/01/2018-12/31/2022

Laboratory for Physical Sciences (PI) "Structural Sparsely/Loosely Connected Layers for Deep Neural Networks", **Total: $186,998,** 12/01/2018-12/31/2020

Army Research Lab STRONG (PI, Collaborative) "Dynamic Graphs for Learning to Optimize Human-Agent Teams", **Total: $99,920**, 04/21/2019-08/20/2020

Army Research Lab (PI, Collaborative) "Online, Adaptive Artifact Identification for Real World Neuroimaging: Algorithms and Hardware", **Total: $317,030,** 08/01/2016-04/31/2019

Amplio Inc. (PI) "Multi-Modal Sensor Data Processing and Causal Relationship for Human Activity and Reasoning", **Total: $50,000,** 09/01/2018-08/31/2019

National Science Foundation (PI), #1743821 Title: "NSF Student Travel Grant for 2017 IEEE International Symposium on Circuits and Systems (ISCAS)", I was local arrangement chair for the 50th IEEE ISCAS conference, this grant was a new initiative for supporting students presenting at ISCAS. **Total: $30,000**, 05/01/2017-10/31/2017

Lockheed Martin (Co-PI, Collaborative), Title: "Radio Frequency Signal Classification Using Deep Neural Networks", **Total: $125,000, My share: $41,600**, 09/01/2016-12/31/2017

National Science Foundation (PI, UMBC Lead in Multi-Campus-Collaborative) AWARD#1526913, Title: "CSR: Small: Collaborative Research: A Heterogeneous Ultra Low Power Accelerator for Wearable Biomedical Computing", **Total $499,000, My share: $ 211,976**, 09/01/2015-08/31/2018

National Science Foundation (PI): AWARD#1350035, Title: "EAGER: Multi-physiological Signal Processing Architectures for Seizure Detection", **Total: $99,803**, Oct. 2013- Dec. 2016

Boeing Corporation Foundation (PI): Total: $10,000, September 2015

National Science Foundation CNS (Senior Personnel): Title: "MRI: Acquisition of Cutting-Edge GPU and Phi Nodes for the Interdisciplinary UMBC High Performance Computing Facility", Total: $605,850 (instrument for UMBC), 07/15/2017-07/14/2020

UMB-UMBC Seed Grant (PI, Collaborative Multi-campus), Title: "Wearable Multimodal System for Monitoring of Epilepsy Patients", **Total $50,000**. 03/20/2015-08/20/2017

Equipment Support from Industry

Boeing Corporation (PI): Server and desktop, gift with total value of $8500, April and August 2017

NVIDIA Corporation (PI): GPU Tesla P40 and Jetson boards, gift with total value of $7000, April 2017, 2019

Xilinx Corporation (PI): FPGA boards, gift with total value of $3,495, July 2013

Publications

I have *underlined* my student coauthors in my publications.

Book Chapters:

B4. Hasib-Al Rashid, Haoran Ren, Arnab Neelim Mazumder, Mohammad M. Sajadi, **Tinoosh Mohsenin**, "A Re-configurable Software-Hardware CNN Framework for Automatic Detection of Respiratory Symptoms", Healthcare Technology Solutions for Pandemics – A Roadmap, Springer Nature, December 2022.

B3. Mohit Khatwani, Hasib-Al Rashid, Hirenkumar Paneliya, Mark Horton, Nicholas Waytowich, W. David Hairston, and **Tinoosh Mohsenin**, "A Flexible Software-Hardware Framework for Brain EEG Multiple Artifact Identification", Springer Handbook of Biochips to be published.

B2. Ali Jafari, Arnab Mazumder, Hasib-Al Rashid, Ashwinkumar Ganesan, Chetan Sai Kumar Thalisetty, Tim Oates and **Tinoosh Mohsenin**, "SensorNet: A Scalable and Low Power Deep Convolutional Neural Network for Multimodal Data Classification in Embedded Real-Time Systems" , Springer Textbook on Machine Learning.

B1. Amey Kulkarni and **Tinoosh Mohsenin**, "SENSE: Sketching Framework for Big Data Acceleration on Low Power Embedded Cores" Springer Textbook on Security and Fault Tolerance in Internet of Things. 2019, Doi:10.1007/978-3-030-02807-7_10

Peer-Reviewed Published and Accepted Journal Articles

J35. Hasib Al-Rashid, Uttej Kallakuri and Tinoosh Mohsenin, "TinyM2Net-V2: A Compact Low Power Software Hardware Architecture for Multimodal Deep Neural Networks", ACM Transactions on Embedded Computing Systems, Accepted March 2023.

J34. Aidin Shiri, Mozhgan Navardi, Tejaswini Manjunath, Nicholas R.Waytowich, **Tinoosh Mohsenin**, "Efficient Language Guided Reinforcement Learning for Resource Constrained Autonomous Systems", IEEE MICRO Magazine, 2022.

J33. Morteza Hosseini, and **Tinoosh Mohsenin**, "QS-NAS: Optimally Quantized Scaled Architecture Search to Enable Efficient On-Device Micro-AI", IEEE Journal on Emerging and Selected Topics in Circuits and Systems, (JETCAS), 2021

J32. Morteza Hosseini, Nitheesh Manjunath, Uttej Kallakuri, Hamid Mahmoodi, Houman Homayoun, and **Tinoosh Mohsenin** "Cyclic Sparsely Connected Architectures - from Foundations to Applications" IEEE Solid-State Circuits Magazine, 2022

J31. Aidin Shiri, Uttej Kallakuri, Hasib-Al Rashid, Bharat Prakash, Nicholas R. Waytowich, Tim Oates, **Tinoosh Mohsenin**, "E2HRL: An Energy-Efficient Hardware Accelerator for Hierarchical Deep Reinforcement Learning "in ACM Transactions on Design Automation of Electronic Systems (TODAES), 2022

J30. Arnab Neelim Mazumder, Jian Meng, Hasib-Al Rashid, Utteja Kallakuri, Xin Zhang, Jae-sun Seo and **Tinoosh Mohsenin**, "A Survey on the Optimization of Neural Network Accelerators for Micro-AI On-Device Inference", IEEE Journal on Emerging and Selected Topics in Circuits and Systems, (JETCAS), 2021, **Impact factor: 5.877**

J29. Morteza Hosseini, Nitheesh Manjunath, Bharat Prakash, Arnab Mazumder, Vandana Chandrareddy and **Tinoosh Mohsenin**, "Cyclic Sparsely Connected Architectures for Compact Deep Convolutional Neural Networks", IEEE Transactions on Very Large Scale Integration Systems (TVLSI), 2021

J28. Arnab Neelim Mazumder, Morteza Hosseini, and **Tinoosh Mohsenin**, "Assessment of Multivariate Time-Series Signals for Low Power Embedded Applications – A Hardware Perspective", 2021 Roadmap on Neuromorphic Computing and Engineering, 2021.

J27. Nitheesh Kumar Manjunath, Aidin Shiri, Morteza Hosseini, Bharat Prakash, Nicholas R. Waytowich, and **Tinoosh Mohsenin**, "An Energy Efficient EdgeAI Autoencoder Accelerator for Reinforcement Learning", IEEE Open Journal of Circuits and Systems, March 2021

J26. Aidin Shiri, Arnab Neelim Mazumder, Bharat Prakash, Nicholas R. Waytowich, and **Tinoosh Mohsenin**, "A Hardware Accelerator for Language Guided Reinforcement Learning", IEEE Transactions of Design and Test, March 2021

J25. Arnab Neelim Mazumder, Haoran Ren, Hasib-Al Rashid, Morteza Hosseini, Vandana Chandrareddy, and **Tinoosh Mohsenin**, "Automatic Detection of Respiratory Symptoms Using a Low Power Multimodal CNN Processor", IEEE Transactions of Design and Test, March 2021

J24. Morteza Hosseini and **Tinoosh Mohsenin**, "Binary Precision Neural Network Manycore Accelerator", ACM Journal on Emerging Technologies in Computing Systems (JETC), September 2021.

J23. Mohit Khatwani, Hasib-Al Rashid, Hirenkumar Paneliya, Mark Horton, Nicholas Waytowich, William David Hairston, **Tinoosh Mohsenin**, "A Flexible Multichannel EEG Artifact Identification Processor using Depthwise-Separable Convolutional Neural Networks", ACM Journal on Emerging Technologies in Computing Systems (JETC), September 2020.

J22. Colin Shea and **Tinoosh Mohsenin** "Heterogeneous Scheduling of Deep Neural Networks for Low-power Real-time Designs", ACM Journal on Emerging Technologies in Computing Systems (JETC), December 2019. Article No.36, doi:10.1145/3358699.

J21. Ali Jafari, Ashwinkumar Ganesan, Chetan Thalisetty, Varun Sivasubramanian, Tim Oates and **Tinoosh Mohsenin**, "SensorNet: A Scalable and Low Power Deep Convolutional Neural Network for Multimodal Data Classification in Embedded Real-Time Systems". IEEE Transactions on Circuits and Systems-I (TCAS-I), 12 pages, 2018, doi: 10.1109/TCSI.2018.2848647, Impact Factor: *2.4*

J20. Tahmid Abtahi, Colin Shea, Amey Kulkarni, and **Tinoosh Mohsenin**, "Accelerating Convolutional Neural Network with FFT on Embedded Hardware", IEEE Transactions on Very Large Scale Integration Systems (TVLSI), 13 pages, vol. 26, no. 9, pp. 1737-1749, 2018, doi: 10.1109/TVLSI.2018.2825145, Impact Factor:1.7

J19. Nasrin Attaran, Abhilash Puranik, Justin Brooks, and **Tinoosh Mohsenin**, "Embedded Low-Power Processor for Personalized Stress Detection", IEEE Transactions on Circuits and Systems-II (TCAS-II), vol. PP, no. 99, pp.1-4, doi: 10.1109/TCSII.2018.2799821, *Impact Factor: 1.7*

J18. Kulkarni, Adwaya, Page Adam, Attaran, Nasrin, Jafari, Ali, Mallik, Maria, Homayoun, Houman **Mohsenin, Tinoosh**, "A Low Power Manycore Accelerator for Personalized Biomedical Applications" IEEE Transactions on Very Large Scale Integration Systems (TVLSI), vol. PP, no. 99, pp. 1-14, 2017 *Impact Factor:1.7*

J17. Ali Jafari, Nathanael Buswell, Maysam Ghovanloo, and **Tinoosh Mohsenin** "A Low Power Wearable Tongue Drive System for People with Severe Disabilities" IEEE Transactions on Biomedical Circuits and Systems (TBioCAS), 11 pages, ISSN: 1932-4545, DOI: 10.1109/TBCAS.2017.2757031, ***Impact Factor: 2.95***

J16. M Hajkazemi, M. Khavari, **Tinoosh Mohsenin**, Houman Homayoun, "Heterogeneous HMC+DDRx Memory Management for Performance-Temperature Trade-offs". ACM Journal on

Emerging Technologies in Computing Systems (JETC), 22 pages. *Impact Factor: 1.4*

J15. Amey Kulkarni, Colin Shea, Tahmid Abtahi, Houman Homayoun and **Tinoosh Mohsenin**, "Low Overhead CS-based Heterogeneous Framework for Big Data Acceleration", ACM Transaction on Embedded Computing Systems (TECS), Vol. 17, No. 1, Article 25, 25 pages, *Impact Factor: 1.2*

J14. Amey Kulkarni and **Tinoosh Mohsenin**, "Low Overhead Architectures for OMP Compressive Sensing Reconstruction Algorithm", In IEEE Transactions on Circuits and Systems I: Regular Papers (TCAS-I), Volume 99, 2017 pp.1-13, doi: 10.1109/TCSI.2017.2648854, 13 pages, ***Impact Factor: 2.4***

J13. Adam Page, Colin Shea, **Tinoosh Mohsenin**, "SPARCNet: A Hardware Accelerator for Efficient Deployment of Sparse Convolutional Networks", In ACM Journal on Emerging Technologies in Computing Systems (JETC), Volume. 13, Issue 3, May 2017, Article No. 31, 32 pages, *Impact Factor: 1.4*

J12. Amey Kulkarni, Youngok Pino, Matthew French and **Tinoosh Mohsenin**, "Real-Time Anomaly Detection Framework for Many-Core Router through Machine Learning Techniques", In ACM Journal of Emerging Technologies in Computing Systems (JETC), Volume 13 Issue 1, Article 10, 22 pages, June 2016. *Impact Factor: 1.4*

J11. Adam Page, Chris Sagedy, Emily Smith, Nasrin Attaran, Tim Oates and **Tinoosh Mohsenin**, "A Flexible Multi-channel EEG Feature Extractor and Classifier for Seizure Detection", IEEE Transactions on Circuits and Systems-II (TCAS-II), vol. 62, no. 2, pp. 109–113, Feb 2015. *Impact Factor: 1.7*

J10. Sina Viseh, Maysam Ghovanloo, and **Tinoosh Mohsenin**, "Towards an Ultra Low Power On-board Processor for Tongue Drive System", IEEE Transactions on Circuits and Systems-II (TCAS-II), vol. 62, no. 2, pp. 174–178, Feb 2015. *Impact Factor: 1.7*

J9. Cannon, B.M.; Mahmood, T.; Astar, W.; Boudra, P.; **Mohsenin, T.**; Carter, G.M., "Polarization-Insensitive Phase-Transmultiplexing and Multicasting of CSRZ-OOK and 4 ✕ RZ-BPSK to 4 ✕ RZ-QPSK via XPM in a Birefringent PCF", IEEE Photonics Journal , vol.6, no.2, pp.1-11, April 2014 doi: 10.1109/JPHOT.2014.2309642. ***Impact Factor: 2.3***

J8. B. M. Cannon, T. Mahmood, W. Astar, P. Apiratikul, G. Porkolab, P. Boudra, **T. Mohsenin**, C. J. K. Richardson, and G. M. Carter "All Optical Amplitude-Phase Transmultiplexing of RZ-OOK and RZ-BPSK to RZ-QPSK by Polarization-Insensitive XPM using a Nonlinear Birefringent AlGaAs Waveguide", Optics Express Journals, August 2013. ***Impact Factor: 3.3***

J7. **Tinoosh Mohsenin**, Houshmand Shirani-Mehr and Bevan Baas, "LDPC Decoder with an Adaptive Wordwidth Datapath for Energy and BER Co-optimization", In Hindawi Transactions of VLSI Design, Article ID 913018, 12 pages, January 2013, *Acceptance rate: 21%*

J6. **Tinoosh Mohsenin**, Dean Truong and Bevan Baas, "A Low Complexity Message Passing Algorithm for Reduced Routing Congestion in LDPC Decoders", in IEEE Transactions of Circuits and Systems I (TCAS-I), vol. 57, no. 5, pp. 1048–1061, May 2010, **Invited.** *Impact Factor: 2.4*

J5. **Tinoosh Mohsenin** and Bevan Baas, "A Split-Decoding Message Passing Algorithm for Low Density Parity Check Codes", in Springer Journal of Signal Processing, vol. 61, issue 3, pp. 329–345, February 2010.

J4. Dean N. Truong, Wayne H. Cheng, **Tinoosh Mohsenin**, Zhiyi Yu, Anthony T. Jacobson, Gouri Landge, Michael J. Meeuwsen, Christine Watnik, Anh T. Tran, Zhibin Xiao, Eric W. Work, Paul V. Mejia, Bevan M. Baas, "A 167-Processor Computational Platform in 65 nm CMOS", in IEEE Journal of Solid-State Circuits (JSSC), vol. 44, no. 4, pp. 1130-1144, April 2009, **Invited**. *Impact Factor: 4.1*

J3. Zhiyi Yu, Michael Meeuwsen, Ryan Apperson, Omar Sattari, Michael Lai, Jeremy Webb, Eric Work, Dean Truong, **Tinoosh Mohsenin**, Bevan Baas, "AsAP: An Asynchronous Array of Simple Processors," in IEEE Journal of Solid-State Circuits (JSSC), vol. 43, no. 3, pp. 695-705, March 2008. *Impact Factor: 4.1*

J2. Ryan Apperson, Zhiyi Yu, Michael Meeuwsen, **Tinoosh Mohsenin**, Bevan Baas, "A Scalable Dual-Clock FIFO for Data Transfers between Arbitrary and Haltable Clock Domains," IEEE Transactions on Very Large Scale Integration Systems (TVLSI), vol. 15, no. 10, pp. 1125-1134, October 2007. *Impact Factor:1.7*

J1. Bevan Baas, Zhiyi Yu, Michael Meeuwsen, Omar Sattari, Ryan Apperson, Eric Work, Jeremy Webb, Michael Lai, **Tinoosh Mohsenin**, Dean Truong, Jason Cheung, "AsAP: A Fine-grain Multi-core Platform for DSP Applications," IEEE Micro, vol. 27, no. 2, March/April 2007, **Invited.**

Peer-Reviewed Published and Accepted Conference Proceedings

I have *underlined* my student coauthors in my publications

C86. Mozhgan Navardi and **Tinoosh Mohsenin**, "MLAE2: Metareasoning for Latency-Aware Energy-Efficient Autonomous Nano-Drones", The IEEE International Symposium on Circuits and Systems (ISCAS), 2023, accepted.

C85. Tejaswini Manjunath, Mozhgan Navardi, Prakhar Dixit, Bharat Prakash, **Tinoosh Mohsenin** " ReProHRL: Towards Multi-Goal Navigation in the Real World using Hierarchical Agents " On 37th AAAI Conference on Artificial Intelligence, The Reinforcement Learning Ready for Production workshop, February 2023.

C84. Mozhgan Navardi, Edward Humes, **Tinoosh Mohsenin**, "E2EdgeAI: Energy-Efficient Edge Computing for Deployment of Vision-Based DNNs on Autonomous Tiny Drones " The 7th ACM/IEEE Conference on Symposium on Edge Computing, EdgeComm: The 3rd Workshop on Edge Computing and Communications, December 2022.

C83. Bharat Prakash, Nicholas Waytowich, Tim Oates, **Tinoosh Mohsenin** " Interpretable Hierarchical Agent Framework using Semantic Goals ", In the AAAI Fall Symposium AI-HRI, November 2022.

C82. Bharat Prakash, Nicholas Waytowich, Tim Oates, **Tinoosh Mohsenin** " Hierarchical Agents by Combining Language Generation and Semantic Goal Directed RL " In the LaReL Workshop in 36th NeurIPS Conference, November 2022.

C81. Arnab Neelim Mazumder and **Tinoosh Mohsenin** " A Fast Network Exploration Strategy to Profile Low Energy Consumption for Keyword Spotting ", TinyML Research Symposium, 2022, USA.

C80. Hasib-Al Rashid, Pretom Roy Ovi, Aryya Gangopadhyay, **Tinoosh Mohsenin** " TinyM2Net: A Flexible System Algorithm Co-designed Multimodal Learning Framework for Tiny Devices ", TinyML Research Symposium, 2022, USA.

C79. Hasib-Al Rashid, Mohammad M. Sajadi and **Tinoosh Mohsenin** " CoughNet-V2: A Scalable Multimodal DNN Framework for Point-of-Care Edge Devices to Detect Symptomatic COVID-19 Cough ", 2022 IEEE Healthcare Innovations and Point of Care Technologies (HI-POCT), 2022, USA.

C78. Mozhgan Navardi, Prakhar Dixit, Tejaswini Manjunath, Nicholas R. Waytowich, **Tinoosh Mohsenin**, "Toward Real-World Implementation of Deep Reinforcement Learning for Vision-Based Autonomous Drone Navigation with Mission ", 3rd Workshop on Closing the Reality Gap in Sim2Real Transfer for Robotics on Robotics: Science and Systems (RSS) July 2022, NY, USA.

C77. Mozhgan Navardi, Aidin Shiri, Edward Humes, Nicholas R. Waytowich, **Tinoosh Mohsenin** " An Optimization Framework for Efficient Vision-Based Autonomous Drone Navigation " Proceedings of IEEE International Conference on Artificial Intelligence Circuits and Systems (AICAS) June 2022, Incheon, Korea.

C76. Bharat Prakash, Nicholas Waytowich, Tim Oates, **Tinoosh Mohsenin** "Interactive Hierarchical Guidance using Language ", AAAI Fall Symposium, 2021, USA

C75. Aidin Shiri, Bharat Prakash, Arnab Neelim Mazumder, Nicholas R. Waytowich, Tim Oates, and **Tinoosh Mohsenin**, "An Energy-Efficient Hardware Accelerator for Hierarchical Deep Reinforcement Learning ", Proceedings of IEEE International Conference on Artificial Intelligence Circuits and Systems (AICAS) 2021, USA.

C74. Morteza Hosseini, Mohammad Ebrahimabadi, Arnab Mazumder, and **Tinoosh Mohsenin**, "A Fast Method to Fine-tune Neural Networks for the Least Energy Consumption on FPGAs", Proceedings of the Hardware Aware Efficient Training workshop of ICLR 2021.

C73. Hasib-Al Rashid, Arnab Neelim Mazumder, Utteja Kallakuri, **Tinoosh Mohsenin**, "CoughNet: A Flexible Low Power CNN-LSTM Processor for Cough Sound Detection", The IEEE International Conference on Artificial Intelligence Circuits and Systems (AI CAS), June 2021

C72. Asmita Korde-Patel, Rich Barry, **Tinoosh Mohsenin**, "Compressive Sensing Based Data Acquisition Architecture for Transient Stellar Events in Crowded Star Fields". The IEEE International Instrumentation and Measurement Technology Conference (I2MTC), May 2020.

C71. Aidin Shiri, Arnab Neelim Mazumder, Bharat Prakash, Nitheesh Kumar Manjunath, Nicholas R Waytowich, **Tinoosh Mohsenin**, "Energy-Efficient Hardware for Language Guided Reinforcement Learning", 30th ACM Great Lakes Symposium on VLSI (GLSVLSI), September 2020.

C70. Morteza Hosseini, Haoran Ren, Hasib-Al Rashid, Arnab Mazumder, Bharat Prakash and **Tinoosh Mohsenin**, "Neural Networks for Pulmonary Disease Diagnosis using Auditory and Demographic Information", epiDAMIK 2020: epiDAMIK ACM SIGKDD International Workshop on Epidemiology meets Data Mining and Knowledge Discovery, August 2020.

C69. Arnab Neelim Mazumder, Hasib-Al Rashid and **Tinoosh Mohsenin** "An Energy-Efficient Low Power LSTM Processor for Human Activity Monitoring" 33rd IEEE International System-on-Chip Conference (SOCC), September 2020.

C68. Haoran Ren, Arnab Mazumder, Hasib-Al Rashid, Vandana Chandrareddy, Aidin Shiri and **Tinoosh Mohsenin**, "End-to-end Scalable and Low Power Multi-modal CNN for Respiratory-related Symptoms Detection ", 33rd IEEE International System-on-Chip Conference (SOCC), September 2020.

C67. Asmita Korde-Patel, RK Barry, **Tinoosh Mohsenin**, "Compressive Sensing Based Data Acquisition Architecture for Transient Stellar Events in Crowded Star Fields", IEEE International Instrumentation and Measurement Technology, May 2020.

C66. Hasib-Al-Rashid and **Tinoosh Mohsenin**, "CNN LSTM Combined Network for Artifact Identification in Multi-channel EEG data ", 11th International Conference on Applied Human Factors and Ergonomics (AHFE 2020), July 2020.

C65. Han Wang, Hossein Sayadi, Liang Zhao, **Tinoosh Mohsenin**, Avesta Sasan, Setareh Rafatirad, Houman Homayoun, "Mitigating Cache-Based Side-Channel Attacks Through Randomization: A Comprehensive System and Architecture Level Analysis", IEEE Design, Automation & Test in Europe, (DATE 2020).

C64. Hasib-Al-Rashid, Nitheesh Kumar Manjunath, Hirenkumar Paneliya, Morteza Hosseini and **Tinoosh Mohsenin**, " A Low-Power LSTM Processor for Multi-Channel Brain EEG Artifact Detection ". In the proceedings of the 21th International Symposium on Quality Electronic Design (ISQED), March 2020.

C63. Hirenkumar Paneliya, Morteza Hosseini, and **Tinoosh Mohsenin**," CSCMAC - Cyclic Sparsely Connected Neural Network Manycore Accelarator ", In the proceedings of the 21th International Symposium on Quality Electronic Design (ISQED), March 2020.

C62. Bharat Prakash, Nicholas Waytowich, Ashwinkumar Ganesan, Tim Oates, **Tinoosh Mohsenin**; "Guiding Safe Reinforcement Learning Policies Using Structured Language Constraints". The AAAI SafeAI Workshop in 34th AAAI conference, 2020.

C61. Morteza Hosseini, Hiren Paneliya, Uttej Kallakuri, Mohit Khatwan and **Tinoosh Mohsenin** " Minimizing Classification Energy of Binarized Neural Network Inference for Wearable Devices " In the proceedings of the 20th International Symposium on Quality Electronic Design (ISQED), 2019.

C60. Sunil Gandhi, Tim Oates, **Tinoosh Mohsenin**, Nicholas Waytowich; "Learning Behaviors from a Single Video Demonstration Using Human Feedback", International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2019.

C59. Bharat Prakash, Mohit Khatwani, Nicholas Waytowich, Tinoosh **Mohsenin**; "Improving Safety in Reinforcement Learning using Model-Based Architectures and Human Intervention", In 32nd International FLAIRS conference (AAAI), May 2019.

C58. Bharat Prakash, Mark Horton, Nicholas Waytowich, William David Hairston, Tim Oates and Tinoosh Mohsenin, "On the use of Deep Autoencoders for Efficient Embedded Reinforcement Learning " 29th ACM Great Lakes Symposium on VLSI (GLSVLSI), May 2019.

C57. Hossein Sayadi, Hosein Mohammadi Makrani, Sai Manoj Pudukotai Dinakarrao, **Tinoosh Mohsenin**, Avesta Sasan, Setareh Rafatirad, Houman Homayoun, "2smart: A two-stage machine learning-based approach for run-time specialized hardware-assisted malware detection", IEEE Design, Automation & Test in Europe Conference & Exhibition (DATE), March 2019.

C56. Morteza Hosseini, Mark Horton, Hiren Paneliya, Uttej Kallakuri and **Tinoosh Mohsenin** " On the Complexity Reduction of Dense Layers from $O(N^2)$ to $O(N \log N)$ with Cyclic Sparsely Connected Layers, "In the proceedings of the 56th ACM/IEEE Design Automation Conference (DAC), 2019, Las Vegas, NV.

C55. Mohit Khatwani, W. David Hairston, Nicholas Waytowich and **Tinoosh Mohsenin,** "A Low Complexity Automated Multi-channel EEG Artifact Detection using EEGNet", IEEE International EMBS Conference On Neural Engineering (NER'19), March 2019.

C54.Hosein Mohamamdi Makrani, Hossein Sayadi, **Tinoosh Mohsenin**, Avesta Sasan, Houman Homayoun, Setareh Rafatirad, "Cross-Platform Performance Estimation of Hardware Accelerators Using Machine Learning", 24th IEEE Asia and South Pacific Design Automation Conference (ASP-DAC), January 2019.

C53. Avesta Sasan, Qi Zu, Yanzhi Wamg, Jae-Sun Seo, **Tinoosh Mohsenin**, "Low Power and Trusted Machine Learning", 28th ACM Great Lakes Symposium on VLSI (GLSVLSI), May 2018.

C52. Mohit Khatwani, Morteza Hosseini, Hiren Paneliya, W. David Hairston, Nicholas Waytowich and **Tinoosh Mohsenin**, "Energy Efficient Convolutional Neural Networks for EEG Artifact Detection", In Proceedings of the biomedical circuits and systems conference (BioCAS), October 2018.

C51. Morteza Hosseini, Rashidul Islam, Lahir Marni and **Tinoosh Mohsenin**, "MPT: Multiple Parallel Tempering for High-Throughput MCMC Samplers", In Proceedings of the 31st International IEEE System-on-Chip Conference (SOCC), September 2018.

C50. Sunil Gandhi, Tim Oates, **Tinoosh Mohsenin**, W. David Hairston, "Denoising Time Series Data Using Asymmetric Generative Adversarial Networks", In Proceedings of The 22nd Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD 2018), June 2018.

C49.Colin Shea, Adam Page, and **Tinoosh Mohsenin**, "SCALENet: A SCalable Low power AccELerator for real-time deep neural Networks", In Proceedings of 28th ACM Great Lakes Symposium on VLSI (GLSVLSI), May 2018, 6 pages, *Acceptance Rate: 27%*

C48. Ali Jafari, Morteza Hosseini, Adwaya Kulkarni, **Tinoosh Mohsenin**, "BiNMAC: Binarized neural Network Manycore ACcelerator", In Proceedings of 28th ACM Great Lakes Symposium on VLSI (GLSVLSI), May 2018, 6 pages

C47. Lahir Marni, Morteza Hosseini, Jennifer Hopp, and **Tinoosh Mohsenin**, "A Real-Time Wearable FPGA-based Seizure Detection Processor Using MCMC", In proceedings of IEEE International Symposium on Circuits and Systems (ISCAS), Florence, Italy, May 2018, *Acceptance Rate: 49%.*

C46. Lahir Marni, Morteza Hosseini and **Tinoosh Mohsenin**, "MC3A: Markov Chain Monte Carlo ManyCore Accelerator", In Proceedings of the 28th Great Lakes Symposium on VLSI (GLSVLSI), May 2018, 6 pages.

C45. Rashidul Islam, W. D. Hairston, Tim Oates and **Tinoosh Mohsenin**. "An Online EEG Artifact Detection and Removal System for Embedded Processors." IEEE Signal Processing in Medicine and Biology Symposium (SPMB), December 2017.

C44. Ali Jafari, Maysam Ghovanloo, and **Tinoosh Mohsenin**, "An Embedded FPGA Accelerator for a Stand-alone Dual-Mode Assistive Device", In Proceedings of IEEE Biomedical Circuits and Systems (BioCAS) Conference, 4 pages, Oct. 2017.

C43. Abtahi,Tahmid, Kulkarni, A., **Mohsenin, T.**. "Accelerating Convolutional Neural Network with FFT on Tiny Cores". In Proceedings of the 50th IEEE International Symposium on Circuits and Systems (ISCAS). May 2017, 4 pages, **Best Paper Award-Honorary Mention, Invited for TCAS-I Journal.**

C42. Adwaya Kulkarni, Tahmid Abtahi, Colin Shea, Amey Kulkarni and **Tinoosh Mohsenin** "PACENet: Energy Efficient Acceleration for Convolutional Network on Embedded Platform", In Proceedings of the 50th IEEE International Symposium on Circuits and Systems (ISCAS), USA, May 2017, 4 pages, **Invited**.

C41. Jafari, A., Gandhi, S., Konuru, S. H., Hairston, W. D., Oates, **Tinoosh Mohsenin**, "An EEG Artifact Identification Embedded System using ICA and Multi-Instance Learning". In Proceedings of the 50th IEEE International symposium on circuits and systems (ISCAS). May 2017, 4 pages, **Invited.**

C40. Ali Jafari, Maysam Ghovanloo, and **Tinoosh Mohsenin**, "A Real-time Embedded FPGA Processor for a Stand-alone Dual-Mode Assistive Device", In Proceedings of the 25th IEEE International Symposium on Field-Programmable Custom Computing Machines (FCCM), May 2017.

C39. Morteza Hosseini, Rashidul Islam, Amey Kulkarni and **Tinoosh Mohsenin** "A Scalable FPGA-based Accelerator for High-Throughput MCMC Algorithms" In Proceedings of the 25th Annual IEEE Symposium on Field-Programmable Custom Computing Machines (FCCM), May 2017.

C38. Amey Kulkarni, Colin Shea, Houman Homayoun, and **Tinoosh Mohsenin**, "LESS: Big Data Sketching and Encryption on Low Power Platform", In proceedings of IEEE Design, Automation & Test in Europe Conference & Exhibition (DATE 2017), April 2017.

C37. Maria Malik, Katayoun Neshatpour, **Tinoosh Mohsenin**, Avesta Sasan and Houman Homayoun,, "Big vs Little Core for Energy-efficient Hadoop Computing", In proceedings of IEEE Design,

Automation & Test in Europe Conference & Exhibition (DATE 2017), April 2017, 6 pages, *Acceptance Rate: 24%*

C36. Adam Page, Colin Shea, and **Tinoosh Mohsenin**, "Wearable Seizure Detection using Convolutional Neural Networks with Transfer Learning". In Proceedings of 49th IEEE International Symposium Circuits and Systems (ISCAS), Montreal, Canada, May 2016, 4 pages, **Invited.**

C35. Amey. Kulkarni, Ali. Jafari, Chris. Sagedy and **Tinoosh Mohsenin**, "Sketching-based High-Performance Biomedical Big Data Processing Accelerator", In Proceedings of 49th IEEE International Symposium Circuits and Systems (ISCAS), Montreal, Canada, May 2016, 4 pages, **Invited.**

C34. Adam Page, Nasrin Attaran, H. Homayoun and **Tinoosh Mohsenin,** "Low-Power Manycore Accelerator for Personalized Biomedical Applications", In Proceedings of 26th ACM Great Lakes Symposium on VLSI (GLSVLSI), May 2016, pp. 63-68, 6 pages, *Acceptance Rate: 27%,* **Best Paper 1st Place Award.**

C33. Amey Kulkarni, Tahmid Abtahi, Emily Smith and **T. Mohsenin**, "Low Energy Sketching Engines on Many-Core Platform for Big Data Acceleration", in Proceedings of the 26th ACM Great Lakes Symposium on VLSI (GLSVLSI), pp. 57-62, May 2016, 6 pages, *Acceptance Rate: 27%.*

C32. A. Page and **T. Mohsenin**. "FPGA-Based Reduction Techniques for Efficient Deep Neural Network Deployment". In Proceedings of IEEE 24th International Symposium Field-Programmable Custom Computing Machines (FCCM), May 2016.

C31. Amey Kulkarni, Ali Jafari, Colin Shea, and **Tinoosh Mohsenin,** "CS-based Secured Big Data Processing on FPGA", In Proceedings of 24th Annual IEEE Symposium on Field-Programmable Custom Computing Machines (FCCM), May 2016.

C30. Amey Kulkarni, Youngok Pino and **Tinoosh Mohsenin,** "Adaptive Real-time Trojan Detection Framework through Machine Learning", In Proceedings of IEEE International Symposium on Hardware Oriented Security and Trust (HOST), May 2016, 4 pages, *Acceptance Rate: 40%.*

C29. Amey Kulkarni, Youngok Pino, **Tinoosh Mohsenin**, "SVM-based Real-Time Hardware Trojan Detection for Many-Core Platform", In proceedings of 17th IEEE International Symposium on Quality Electronic Design (ISQED), March 2016, 6 pages, *Acceptance Rate: 36%.*

C.28 Adam Page, Siddharth Pramod, Tim Oates, and **Tinoosh Mohsenin** "An Ultra Low Power Feature Extraction and Classification System for Wearable Seizure Detection", In proceedings of 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Milan, Italy, August 2015, 4 pages, **Invited.**

C27. Ali Jafari, Adam Page, Chris Sagedy, Emily Smith, **Tinoosh Mohsenin**, "A Low Power Seizure Detection Processor Based on Direct Use of Compressively-Sensed Data and Employing a Deterministic Random Matrix", In Proceedings of IEEE Biomedical Circuits and Systems (BioCAS) Conference, Oct. 2015, 4 pages. *Acceptance Rate: 49%.*

C26. Adam Page and **Tinoosh Mohsenin**. "Utilizing deep neural nets for an embedded ECG-based biometric authentication system", In Proceedings of IEEE Biomedical Circuits and Systems (BioCAS) Conference, Oct 2015, 4 pages. *Acceptance Rate: 49%.*

C25. Amey Kulkarni and **Tinoosh Mohsenin**, "Accelerating Compressive Sensing Reconstruction OMP Algorithm with CPU, GPU, FPGA and Domain Specific Many-Core", In Proceedings of the 48th IEEE International Symposium on Circuits and Systems (ISCAS'15), Lisbon, Portugal, May 2015, 4 pages. *Acceptance Rate: 50%.*

C24. Mohammad Khavari Tavana, Amey Kulkarni, Abbas Rahimi, **Tinoosh Mohsenin**, and Houman Homayoun, "Energy-efficient mapping of biomedical applications on domain-specific accelerator under process variation", In Proceedings of the 14'th IEEE International Symposium on Low Power Electronics and Design (ISLPED '14), 6 pages, *Acceptance Rate: 34%.*

C23. A. Kulkarni, Houman Homayoun and **Tinoosh Mohsenin** "A Parallel and Reconfigurable Architecture for Efficient OMP Compressive Sensing Reconstruction", In Proceedings of the 24'th ACM Annual Great Lakes Symposium on VLSI (GLSVLSI'2014), 6 pages, *Acceptance Rate: 24%.*

C22. Adarsh Reddy Ashammagari, Hamid Mahmoodi, **Tinoosh Mohsenin**, and Houman Homayoun. 2014. Reconfigurable STT-NV LUT-based functional units to improve performance in general-purpose processors", In proceedings of the 24'th Annual Great Lakes Symposium on VLSI (GLSVLSI'2014), 6 pages, *Acceptance Rate: 24%.*

C21. Brice Cannon; Tanvir Mahmood, William Astar, Paul Boudra, **Tinoosh Mohsenin** and Gary Carter, "Polarization-Insensitive Phase-transmultiplexing of CSRZ-OOK and RZ-BPSK to RZ-QPSK via XPM in a PCF", In Proceedings of the 40th IEEE Optical Fiber Communication Conference (OFC), March 2014.

C20. Adam Page and **Tinoosh Mohsenin**, "An Efficient & Reconfigurable FPGA and ASIC Implementation of a Spectral Doppler Ultrasound Imaging System", In proceedings of the 24th IEEE International Conference on Application-specific Systems, Architectures and Processors (ASAP 24), June 2013.

C19. Jordan Bisasky, Houman Homayoun, Farhang Yazdani and **Tinoosh Mohsenin**, "A 64-core platform for biomedical signal processing", In proceedings of 14th IEEE International Symposium on Quality Electronic Design (ISQED), March 2013, 6 pages, *Acceptance Rate: 27%.*

C18. J. Stanislaus and **T. Mohsenin**, "High performance compressive sensing reconstruction hardware with QRD Process", In proceedings of the 45th IEEE International Symposium on Circuits and Systems (ISCAS'12), 4 pages, May 2012.

C17. J. Bisasky, J. Chander, and **T. Mohsenin**, "A many-core platform implemented for multi-channel seizure detection", In proceedings of the 44th IEEE International Symposium on Circuits and Systems (ISCAS'12), 4 pages, May 2012.

C16. J. Stanislaus and **T. Mohsenin**, "Low-complexity FPGA implementation of compressive sensing reconstruction", In proceedings of The IEEE International Conference on Computing, Networking and Communications, (ICNC'13), 4 pages, January 2013.

C15. James Darin Chandler, Jordan Bisasky, Jerome L.V.M. Stanislaus and **Tinoosh Mohsenin**, "Real-time Multi-channel Seizure Detection and Analysis Hardware", In proceedings of The IEEE Biomedical Circuits and Systems Conference (BIOCAS '11), 4 pages, November 2011.

C14. Houshmand Shirani-mehr, **Tinoosh Mohsenin** and Bevan Baas, "A Reduced Routing Network Architecture for Partial Parallel LDPC Decoders", In proceedings of The Asilomar Conference on Signals, Systems and Computers (ACSSC'11), 4 pages, November 2011.

C13. **Tinoosh Mohsenin**, Houshmand Shirani-Mehr and Bevan Baas, "Low Power LDPC Decoder with Efficient Stopping Scheme for Undecodable Blocks", In proceedings of the 44'th IEEE International Symposium on Circuits and systems (ISCAS '11), May 2011, **Invited**.

C12. **Tinoosh Mohsenin** and Bevan Baas, "Trends and Challenges in LDPC Hardware Decoders", In proceedings of The Asilomar Conference on Signals, Systems and Computers (ACSSC), November 2009, pp. 1273–1277, **Invited**.

C11. **Tinoosh Mohsenin**, Dean Truong and Bevan Baas, "An Improved Split-Row Thresholding Decoding Algorithm for LDPC Codes", In proceedings of The IEEE International Conference on Communications (ICC'09), June 2009.

C10. **Tinoosh Mohsenin**, Dean Truong, and Bevan Baas, "Multi-Split-Row Threshold Decoding Implementations for LDPC Codes", In proceedings of The 42nd IEEE International Symposium on Circuits and systems (ISCAS '09), pp. 2449-2452, May 2009.

C9. **Tinoosh Mohsenin**, Pascal Urard and Bevan Baas, "A Thresholding Algorithm for Improved Split-Row Decoding of LDPC Codes", In proceedings of Asilomar Conference on Signals, Systems and Computers (ACSSC'08), pp. 448-451, October 2008.

C8. Dean Truong, Wayne Cheng, **Tinoosh Mohsenin**, Zhiyi Yu, Toney Jacobson, Gouri Landge, Michael Meeuwsen, Christine Watnik, Paul Mejia, Anh Tran, Jeremy Webb, Eric Work, Zhibin Xiao, Bevan Baas, "A 167-processor Computational Array for Highly-Efficient DSP and Embedded Application Processing", In Proceedings of the HotChips Symposium of High-Performance Chips, (HotChips 2008), August 2008.

C7. Dean Truong, Wayne Cheng, **Tinoosh Mohsenin**, Zhiyi Yu, Toney Jacobson, Gouri Landge, Michael Meeuwsen, Christine Watnik, Paul Mejia, Anh Tran, Jeremy Webb, Eric Work, Zhibin Xiao, Bevan Baas, "A 167-processor 65 nm Computational Platform with Per-Processor Dynamic Supply Voltage and Dynamic Clock Frequency Scaling", In Proceedings of the IEEE Symposium on VLSI Circuits, pp. 22-23, June 2008.

C6. **Tinoosh Mohsenin** and Bevan Baas, "An 18 Gbps 2048-bit 10GBASE-T Ethernet LDPC Decoder", IEEE International Solid-State Circuits Conference (ISSCC) 2008 Student Research Forum, February 2008.

C5. **Tinoosh Mohsenin**, Bevan M. Baas, "High-throughput LDPC Decoders Using a Multiple Split-Row Method", In Proceedings of the 32nd International Conference on Acoustics, Speech, and Signal Processing (ICASSP'07), vol.2, pp. II-13-16, April 2007.

C4. **Tinoosh Mohsenin**, Bevan M. Baas, "Split-Row: A Reduced Complexity, High Throughput LDPC Decoder Architecture", In Proceedings of the IEEE International Conference of Computer Design (ICCD '06), pp. 320-325, October 2006.

C3. Bevan Baas, Zhiyi Yu, Michael Meeuwsen, Omar Sattari, Ryan Apperson, Eric Work, Jeremy Webb, Michael Lai, Daniel Gurman, Chi Chen, Jason Cheung, Dean Truong, **Tinoosh Mohsenin**, "Hardware and Applications of AsAP: An Asynchronous Array of Simple Processors", In Proceedings of the IEEE HotChips Symposium on High-Performance Chips (HotChips 2006), August 2006.

C2. Zhiyi Yu, Michael Meeuwsen, Ryan Apperson, Omar Sattari, Michael Lai, Jeremy Webb, Eric Work, **Tinoosh Mohsenin**, Mandeep Singh, Bevan M. Baas, "An Asynchronous Array of Simple Processors for DSP Applications", In Proceedings of the IEEE International Solid-State Circuits Conference, (ISSCC '06), pp. 428-429, February 2006.

C1. Patrick Murphy, J. Patrick Frantz, Eric Welsh, Ricky Hardy, **Tinoosh Mohsenin** and Joseph Cavallaro, "VALID: Custom ASIC Verification and FPGA Education Platform", Microelectronic Systems Education Conference, (MSE'03), pp. 64-65, June 2003.

Additional Peer Reviewed Conferences and Workshops

S20. Morteza Hosseini, Nitheesh Kumar Manjunath, "A 0.9 TOP/S/W Accelerator for Structurally Compressed DNNs Featuring Cyclic Sparsely Connected Layers", In 2020 International Solid-State Circuits Conference (ISSCC-SRP), **Best Poster Student Research Preview Award, 67th ISSSC Conference, February 2020.**

S19. Tahmid Abtahi, **Tinoosh Mohsenin**, Belay Demoz, and Ruben Delgado "Embedded In-situ Real-time Compression Decompression Framework for Atmospheric Big Data Applications" in Proceedings of The 10th International Symposium on Tropospheric Profiling (ISTP10), June 2017, 5 pages.

S18. Adam Page, **Tinoosh Mohsenin,** "Accelerating Convolutional Neural Networks in Resource-Bound, Real-Time Embedded Systems", 2017 IEEE Design Automation Conference (DAC-WIP) Work-in-Progress Session, June 2017.

S17. Nasrin Attaran, Justin Brooks and **Tinoosh Mohsenin**, "A Low-Power Multi-Physiological Monitoring Processor for Stress Detection" , In Proceedings of the IEEE sensors conference, October 2016, pp. 1-3.

S16. Ali Jafari, Nathanael Buswell, Adam Page, Maysam Ghovanloo, and **Tinoosh Mohsenin** "A Low Power Wearable Tongue Drive System for People with Severe Disabilities" In 2016 International Solid-State Circuits Conference (ISSCC-SRP), Research Preview, January 2016.

S15. Asmita Korde-Patel, Barry, R.K., **Mohsenin, T**. "Application of Compressive Sensing to Gravitational Microlensing Data and Implications for Miniaturized Space Observatories". In proceedings of Astronomical Data Analysis Software and Systems (ADASS) Conference, 2016 National Inst. for Astrophysics Astronomical Observatory (INAF). Astronomical Society of the Pacific (ASP) Conference Series, Oct 2016.

S14. Asmita Korde-Patel, Barry, R.K., **Mohsenin, T** "Application of Compressive Sensing to Gravitational Microlensing Experiments", IAU Symposium 325 on Astroinformatics. Cambridge University Press, Sept 2016.

S13. Adam Page and **Tinoosh Mohsenin**, "An Ultra Low Power System for Personalized, Wearable Seizure Detection" , In IEEE 2015 Strategic Conference on Healthcare Innovations and Point-of-Care Technologies for Precision Medicine, November 2015.

S12. Ali Jafari, Sina Viseh, Adam Page, Maysam Ghovanloo, and **Tinoosh Mohsenin** "An Ultra Low Power Tongue Drive System for Paralyzed Patients" In IEEE 2015 Strategic Conference on Healthcare Innovations and Point-of-Care Technologies for Precision Medicine, November 2015.

S11. **Tinoosh Mohsenin** and Adam Page, "Towards A Low Power Wearable Personalized Seizure Detection System" In Proceedings of the IEEE EMBS Brain Grand Challenges, Nov 2014, 4 pages.

S10. A.Kulkarni and **T. Mohsenin** "High Performance Architectures for OMP Compressive Sensing Reconstruction Algorithm" in Proceedings of The 39th Annual GOMACTech Conference, April 2014, acceptance rate for oral presentation: 22%.

S9. S.Viseh, A.Acevedo, M. Ghovanloo and **T. Mohsenin** "Towards A Low Power FPGA Implementation for A Stand-Alone Intraoral Tongue Drive System" in Proceedings of The 39th Annual GOMACTech Conference, April 2014, acceptance rate for oral presentation: 22%

S8. A. Page, JT Turner, **T. Mohsenin** and T. Oates, "High Resolution Multichannel Electroencephalography Data Analysis and Processing in Seizure Detection" In proceedings of The 27th International Conference of the Florida Artificial Intelligence Society (FLAIRS'27), May 2014, 4 pages,

S7. JT Turner, A. Page, **T. Mohsenin** and T. Oates, "Deep Belief Networks used on High Resolution Multichannel Electroencephalography Data for Seizure Detection" In Proceedings of The AAAI Spring Symposium, March 2014

S6. **T. Mohsenin** and T. Oates, "Algorithm and Hardware Characterization for Personalized Big Data Analysis: A Case study for Seizure Detection", The 2014 NIST Data Science Symposium, March 2014

S5. **Tinoosh Mohsenin**, Jordan Bisasky and Darin Chandler, "A Many-core Platform for Intelligent Biomedical Systems", In Proceedings of the Grace Hopper Celebration of Women in Computing 2012 New Investigators Technical Papers (GHC'12), **Invited young investigator speaker**, November 2012

S4. **Tinoosh Mohsenin**, "Implementing Low Power Error Correction Hardware for Next Generation Communication Applications", In Proceedings of the Grace Hopper Celebration of Women in Computing 2011 New Investigators Technical Papers (GHC'11), **Invited young investigator speaker**, November 2011

S3. Amey Kulkarni and **Tinoosh Mohsenin,** "Parallel heterogeneous architectures for efficient OMP compressive sensing reconstruction", In proceedings of The SPIE Sensing Technology and Applications Conference, May 2014.

S2. Mahmood, T., Cannon, B., Astar, W., Boudra, P., **Mohsenin, T.**, Carter, G, "I Polarization-insensitive All-optical Data Transfer using Cross-Phase Modulation in a PCF", In Proceedings of The SPIE Photonics North Conference, May 2014

S1. Asmita Korde, Damon Bradley, **Tinoosh Mohsenin** "Detection Performance and Hardware Complexity Analysis of Radar Compressive Sensing", In proceedings of The SPIE Conference on Defense, Security, and Sensing, May 2013

Press Release and Coverage

N13. Featured in Baltimore CBS News WJZ TV in AI Series, "Cutting-edge UMBC research uses artificial intelligence and robots to assist national security", https://www.cbsnews.com/baltimore/news/cutting-edge-umbc-research-uses-artificial-intelligence-and-robots-to-assist-national-security/, February 16 2023.

N12. Featured in UMBC News Story: "UMBC experts guide TV viewers through the promises and pitfalls of artificial intelligence", https://umbc.edu/stories/umbc-experts-on-promises-and-pitfalls-of-artificial-intelligence/, February 2023

N11. Featured in UMBC News Story for First-placed Award ARL Sponsored Hackathon and Presentation in Human-Guided System Adaptation (HSA) Science Challenge and Hackathon Week. https://my3.my.umbc.edu/groups/csee/posts/127509, Columbia University, NY, August,2022

N10. Featured UMBC News Story: "UMBC's Tinoosh Mohsenin develops COVID-Matter framework to determine severity of respiratory disease": https://news.umbc.edu/umbcs-tinoosh-mohsenin-develops-covid-matter-framework-to-determine-severity-of-respiratory-disease/, 2022

N9. Featured in UMBC News "UMBC celebrates U.S. News Best Grad School rankings in engineering, public affairs": https://news.umbc.edu/umbc-celebrates-u-s-news-best-grad-school-rankings-in-engineering-public-affairs/ , 2022

N8. Featured in UMBC News: "UMBC to partner with UMD, Army Research Lab to advance AI and autonomy through $68M collaboration": https://news.umbc.edu/umbc-to-partner-with-umd-army-research-lab-to-advance-ai-and-autonomy-through-68m-collaboration/, 2022

N7. UMBC News Story http://news.umbc.edu/tinoosh-mohsenin-receives-nearly-500000-nsf-career-award-for-deep-learning-technologies/

N6. CSEE News Story https://www.csee.umbc.edu/2017/04/umbc-prof-tinoosh-mohsenin-receives-nsf-career-award-deep-learning-technologies/ 2017

N6. UMBC Magazine, "UMBC Researchers Explore the New Great Frontier – The Brain"
http://magazine.umbc.edu/staking-our-claim/

N5. Huffington Post Interview, 2017

N4. UMBC Discovery Magazine, "THE BODY ELECTRIC"
http://umbcmagazine.wordpress.com/umbc-magazine-winter-2014/discovery-winter-2014/ , Winter
2014

N3. UMBC Front Webpage, "THE BODY ELECTRIC",
http://umbc.edu/window/body_electric_2013.html, Fall 2013

N2. California AGGIE, UC Davis, "New 167-processor chip boasts high speed, energy
efficiency", http://asucd-cms.ucdavis.edu/aggie-clone/2009/04/29/new-167processor-chip-
boasts-high-speed-energy-efficiency/, April 2009

N1. UC Davis News Service, "New 167-processor Chip Is Super-fast, Ultra Energy-efficient",
http://www.news.ucdavis.edu/search/news_detail.lasso?id=9082, April 2009

Selected Invited Talks and Panels

T57. IEEE Workshop on Hardware and Algorithms for Learning On-a-chip (HALO), San Diego
 "When Intelligence Moves to the Low Power Autonomous Systems", November 2022

T56. ARL Technical Assessment Board (TAB), Humans in Complex Systems Competency (HCxS),
Aberdeen Proving Ground (APG), MD "Energy-Efficient Language Guided Reinforcement Learning
and Deployment on Autonomous Aerial and Ground Vehicles", November 2nd, 2022

T55. DOE ORNL Core Universities AI workshop, "The Dark Side of AI in Environment and Energy
Efficiency", Arlington, VA, October 28th, 2022

T54. GE 2022 EDGE Symposium, "Multimodal Learning for Edge Devices", Niskayuna, NY,
September 2022

T53. Johns Hopkins University, Baltimore, MD.
"When Intelligence Moves to the Low Power Autonomous Systems", March 2022

T52. NASA Goddard Space Flight Center's Artificial Intelligence Center of Excellence, NASA
Goddard, Greenbelt, MD.
"Micro AI: When Intelligence Moves to the Low Power Sensors", June 2021

T51.Keynote Speaker for IEEE I2MTC 2021 Special Session
"Embedded Artificial Intelligence for Smart Sensing and IoT applications", May 2021

T51. Case Western University Departments of Computer and Data Sciences and Electrical, Computer,
and Systems Engineering's Colloquia Series, March 2021
"Micro AI: When Intelligence Moves to the Low Power Sensors"

T49. Keynote Speaker, 27th IEEE International Conference on Electronics Circuits and Systems
(ICECS 2020), November 2020, Glasgow, Scotland.
"Micro AI: When Intelligence Moves to the Low Power Sensors"

T48. Keynote Speaker, 14TH IEEE Dallas Circuits and Systems Conference (DCAS2020), Dallas,
November 2020.
"Micro AI: When Intelligence Moves to the Low Power Sensors"

T47. Keynote Speaker, IEEE AI Circuits and Systems Conference (AICAS 2020), Genoa, Italy, September 2020.
"Micro AI: When Intelligence Moves to the Low Power Sensors"

T46. IEEE Workshop on Hardware and Algorithms for Learning On-a-chip (HALO), Colorado,
 "Multi-modal Machine Learning Hardware for Time-series Signals", November 2019

T45.UMBC GRIT-X Invited Speaker, Baltimore, Maryland
"Micro AI: When Intelligence Moves to the Low Power Sensors", October 2019

T45.Applied Research Lab (APL), Maryland
 "Low Power Machine Learning", October 2019

T44. University College London (UCL), London, UK, Seminar,
"Compressive Sensing and Reconstruction on the Edge", June 2019

T43.NSF Aspiring PI workshop, Alexandria, VA
"My CAREER Experience", June 2019

T42. UC San Diego, Adaptive Computing and Embedded Systems (ACES) Lab,
"Efficient Processing When Intelligence Moves to the Edge", July 2018

T41. UC Irvine, Department Seminar
"Efficient Processing When Intelligence Moves to the Edge", July 2018

T40. University College London (UCL), London, UK, Seminar,
"Compressive Sensing and Reconstruction on the Edge", June 2018

T39. 28th I ACM Great Lakes Symposium on VLSI Conference, Invited Discussion Panel, Chicago
"Low Power & Trusted Machine Learning", May 2018

T38. George Mason University, Department Seminar
"Efficient Processing When Intelligence Moves to the Edge, March 2018

T37.UC Davis, Seminar
"Towards Low Power Cognitive Embedded Processing", February 2018

T36. Persian Women In Tech (PWIT), Invited Discussion Panel, Washington DC
"What Your Career Path in the Tech Industry could look like", November 2017

T35. The Cognition and Neuroergonomics Collaborative Technology Alliance (CaN-CTA), Special Session Seminar, Gainesville, Florida
"Efficient Embedded Systems Approaches Enabling Long-term On-line neuroimaging", October 2017

T34. Army Research lab (ARL), Aberdeen Proving Ground, MD, Seminar
"Towards a Low Power Cognitive Multi-Physiological", Embedded Processing Platform", August 2017

T33. University College London (UCL), London, UK, Seminar,
 "Towards an Energy Efficient Internet of Things Processing Platform", June 2017

T32. COEIT CAREER Workshop, UMBC, Baltimore, MD
"Lessons from my CAREER", May 2017

T31. President's Council, UMBC, Baltimore, MD
"NSF CAREER DeepMatter: A Scalable & Programmable Embedded Deep Neural Network", April 2017

T30. DARPA SAGA Workshop, Dayton, OH, Seminar

"Efficient Accelerator for Mont Carlo Markov Chain Computing", November 2016

T29. Intel Corporation, Portland, OR, Seminar
"Towards a Secured Cognitive Internet of Things Processing Platform", June 2016

T28. Department of Energy (DOE) Neuromorphic Computing Workshop, Oak ridge National Lab, TN, Seminar, "Bringing Physical Dimensions to the Deep Networks for Neuromorphic Computing", June 2016

T27. 49th IEEE International Symposium on Circuits and Systems (ISCAS), Montreal, Canada, Invited session, "Sketching-based High-Performance Biomedical Big Data Processing Accelerator", May 2016

T26. 49th IEEE International Symposium on Circuits and Systems (ISCAS), Montreal, Canada, Invited session, "Wearable Seizure Detection using Convolutional Neural Networks with Transfer Learning", May 2016

T25. Army Research lab (ARL), Aberdeen Proving Ground, MD, Seminar
"Algorithms, Architectures and Circuits for Personalized Smart Health Monitoring", December 2015

T24. Telemedicine and Advanced Technology Research Center (TATRC)
"Low Power Signal Processing and Hardware for Smart Health Monitoring, June 2015

T23. University College London (UCL), London, UK, Seminar,
 "Low Power Signal Processing and Hardware for Smart Health Monitoring, June 2015

T22. Naval Research lab (NRL), Washington DC, Seminar,
"Algorithms, Architectures and Circuits for Personalized Smart Health Monitoring", June 2014

T21. Case Western Reserve University, Cleveland, OH, EECS Seminar
"Energy Efficient and High Performance Algorithms and Hardware for Biomedical Signal Processing and Communications Applications", April 2014

T20. NASA Goddard, Greenbelt, MD, Digital Signal Processing Technology group Seminar
"Efficient Implementation of DSP and Communications Applications in Low Power Hardware", March 2014

T19. Hughes Networks Systems LLC, Germantown, MD, Seminar,
"Energy Efficient and High Performance Architectures for Communication Applications", September 2013

T18. Information Sciences Institute (ISI) , Arlington, VA, Seminar,
"Algorithms, Architectures and Circuits for Complex DSP and ML Applications ", August 2013

T17. Imperial College, London, UK, EE Department, Research Group Seminar
"Algorithms, Architectures and Circuits for Complex DSP and ML Applications, July 2013

T16. IEEE Signal Processing Chapter, Baltimore, MD, Seminar
"Energy Efficient Platforms for High Performance and Embedded Computing", May 2013

T15. Nokia Research Lab, Berkeley, CA, Seminar
 "Energy Efficient Platforms for High Performance and Embedded Computing", March 2013

T14. NASA Goddard, Digital Signal Processing Technology group Seminar
"Efficient Implementation of Compressive Sensing Reconstruction", September 2012

T13. IEEE Circuits and Solid States, Baltimore, MD, Seminar
"Energy Efficient and High Performance Architectures for Communication Applications", November 2011

T12. Telemedicine and Advanced Technology Research Center (TATRC), A Multi-channel Seizure Detection and Analysis Chip, September 2011

T12. University of California, San Diego, TATRC-Qualcomm Wireless Health Innovation Challenge Talk "Wireless Lab-on-a-Chip Apparatus, for Implantable Cardiac Devices", February 2011

Teaching

CMPE 691/491 Configurable System Design (Spring 2018, 2019, 2020) developed a new course for FPGA and ASIC design with DSP and biomedical projects.

CMPE 311 Embedded Systems and C programming, Microcontrollers (Fall 2015, 2016, 2017, 2019, 2021, 2022)

CMPE 415 Programmable Logic Devices, FPGAs (Fall 2011, Spring 2012, 2013, 2014, 2017, 2018, 2020), developed most of the material for the course.

CMPE 615 Machine Learning and Digital Signal Processing Hardware Implementation (Spring 2011, Spring 2012, Fall 2013, Fall 2014, 2019), developed a new course.

CMPE 650 Digital Systems (Spring 2013, Spring 2014, Spring 2015, Spring 2016, Spring 2017, Spring 2018), developed new course.

CMPE 641 Advanced Topics in VLSI (Spring 2016, 2018), co-taught and developed new material.

Students and Postdoctoral Researcher

Postdoctoral Researcher
Siamak Aram, currently Associate Professor at Harrisburg University of Science and Technology, "EEG Data Analysis for Brain Functions and Activities" (PhD, Politecnico di Torino, Italy, 2015)

Ph.D. Students
PhD Completed, Primary Advisor
1. Asmita Korde, March 2022, Research Scientist at NASA
   Dissertation Title: "Compressive Sensing for Gravitational Microlensing".
2. Morteza Hosseini, December 2021, Research Scientist at Qualcomm
   Dissertation Title: "An Energy-Efficient Accelerator for Low-Bitwidth Neural Networks Compressed with Cyclic Sparsely Connected Structures".
3. Colin Shea, Technical Research Fellow at Boeing, November 2021
   Dissertation Title: "Scalable Deep Neural Networks for Real-time Low Power Applications".
4. Ali Jafari, November 2017, Research Scientist at Intel Labs
   Dissertation Title: "An Embedded Multi-Modal Deep Neural Network Processor for Time Series Data Classification".
5. Amey Kulkarni, February 2017, Senior R&D Engineer at Nvidia Corp.
   Dissertation Title: "Heterogeneous and Scalable Sketch-based Framework for Big Data Acceleration on Low Power Embedded Cores".
6. Adam Page, December 2016, Senior Engineer at SamTech Inc.
   Dissertation Title: "Deploying Deep Neural Networks in Embedded Real-Time Systems".

PhD in Progress, Primary Advisor
7. Bharat Prakash, PhD in progress, PhD Proposal October 2021.
   Dissertation Title: "Hierarchical Guidance using Language Instructions for Sequential Decision Making"
8. Hassib Al-Rashid, PhD in progress, PhD Proposal May 2022.

Dissertation title: "HAC-M-DNN: Hardware Aware Compression of Multimodal Deep Neural Networks for Efficient Real-time Edge Deployment"
9. Arnab Mazumder, PhD in progress, PhD Proposal December 2022.
   Disseration title: "A regression-based Hardware Aware Deep Neural Network Architecture Search"
10. Uttej Kallakuri, PhD in progress, PhD Proposal November 2023.
11. Mozhgan Navardi, PhD in progress, PhD proposal November 2023.

PhD Committee Member
1. Haneen Bawayan, PhD proposal Dissertation November 2021, Member
2. Sunil Gandi, PhD Dissertation, 2020, Member
3. Jeffrey Turner, PhD Dissertation January 2018, Member
4. Qinglei Meng, PhD Dissertation August 2018, Member
5. Ahmed Shahin, PhD Dissertation April 2017, Member
6. Brice Cannon, PhD Dissertation April 2015, Member
7. Tanvir Mahmood, PhD Dissertation September 2015, Member
8. Robert Schultz, PhD Dissertation April 2014, Member

Master's Students
MS Completed, Advisor
1. Vandana Chandrareddy, Hardware Engineer Nvidia Corp.
   Thesis Title: "FPGA based Optical Two Way Time Transfer for Clock Correction through Dynamic Reconfiguration", September 2021.
2. Nitheesh Kumar Manjunath, FPGA Design Engineer Broadcast Sports International
   Thesis Title:"An Energy Efficient EdgeAI Autoencoder for Reinforcement Learning", May 2021.
3. Hirenkumar Sumanbhai Paneliya, Hardware Design Engineer Marvell Semiconductor.
   Thesis Title "CSCMAC - Cyclic Sparsely Connected Neural Network Manycore Accelerator"
4. Mohit Khatwani, August 2019, Software Engineer TransUnion,
   Thesis Title "Efficient Artifact Identification in Multi-Channel EEG Data".
5. Uttej Kallakuri, October 2019, Hardware Engineer
   Project title "Hardware Accelerator Design for Sparse Matrix Vector Multiplication".
6. Lahir Marni, May 2018, Software Engineering at Walmart
   Thesis Title "Programmable Manycore Accelerator for Markov Chain Monte Carlo".
7. Chetan Thalisetty, May 2018, Software Engineer at Amazon.
   Project Title "A Scalable and Low Power Deep Convolutional Neural Network for Multimodal Data Classification in Embedded Real-Time Systems".
8. Varun Sivasubramanian, May 2018, Application Support Engineer at Equifax.
   Thesis Title "The Design and Implementation Of A Scalable Bus-Based Cluster With Shared Memory For A Programmable Manycore Platform"
9. Adwaya Kulkarni, Intel Corp. November 2017, Hardware Engineer at Intel
   Thesis title: "Programmable Manycore Accelerator for Machine Learning, Convolutional Neural Network and Binary Neural Network".
10. Nathanael Buswel, Northrop Grumman Corp, December 2017
    Project title: "Implementation of an FPGA-based low Power Wearable Stand-alone Tongue Drive System".
11. Tahmid Abtahi, July 2017, Senseonics Inc.
    Thesis title: "Accelerating Convolutional Neural Network with FFT on Embedded Hardware".
12. Nasrin Attaran, April 2017, Hardware Engineer
    Thesis title: "Architecture Exploration for Low-Power Wearable Stress Detection".
13. Sri Harsha Konuru, August 2017
    Project title: "An EEG Artifact Identification Embedded System using ICA and Multi-Instance Learning".

14. Abhilash Puranik, June 2017
    Project title: "Embedded Low-Power Processor Analysis for Stress Detection".
15. Emily Smith, Dec. 2015
    Project title: "The Design and Implementation of a Scalable Bus-based Cluster with Shared Memory for a Programmable Many-Core Platform".
16. Chris Sagedy, Dec.2015
    Project title: "Development of an Architecture Simulator for the EEHPC Many-Core Processor".
17. Sina Viseh, August 2014
    Thesis title: "A Low Power On-board Processor for a Tongue Assistive Device".
18. Asmita Korde, July 2013, NASA
    Thesis title: "Detection Performance and Computational Complexity of Radar Compressive Sensing for Noisy Signals".
19. Darin Chandler, May 2012,
    Thesis title: "An Efficient Network on Chip Targeted to a Parallel, Low Power, Low-area Homogenous Many-Core DSP Platform".

MS in Progress, Advisor
1. Tejaswini Manjunath, Expected May 2023.
2. Malcolm Thorpe, Expected May 2023.
3. Prakhar Dixit, Expected May 2023.

Undergraduate Researchers

1. Edward Humes, November 2021-present, Research Mentor
2. David Ledbetter, November 2021-November 2022, Research Mentor
3. Kamran Attaran, March 2021-July 2022, Research Mentor
4. Griffin Bonner, July 2020-May 2021, Research Mentor
5. Kelsey Chestnut, May 2020-May 2021, Research Mentor
6. Mark Horton, March 2018-May 2019, URA research mentor
7. Yeerfan Tuerdi, March 2017-May 2018, URA research mentor
8. Elise Donker, Apr 2015-May 2016, URA research mentor
9. Vignesh Dhanasekaran, Sept 2014-May2015, Research Mentor
10. Kamal Broomes, May 2013-May 2014, Research Mentor
11. Alec Pulianas, May 2013-May 2014 URA research mentor
12. Paul Boudra May 2012-May 2013, Research Mentor
13. Julian Field May 2012-May 2013, URA research mentor
14. Adam Page May 2012-Dec 2012, URA research mentor

Department and University Service

ECE Graduate Program Committee: Fall 2022-Present

Promotion and Tenure Committee Candidate Chair: August 2022-present

CSEE Executive Committee: Fall 2022-Present

UMBC ADVANCE Executive Committee: Fall 2022-Present

CSEE Search Committee: Spring 2021 and Spring 2022

Undergraduate Committee, Member, Fall 2014-2020

CSEE Faculty Search Committee, Member, Fall 2015-May 2016

Department Chair Search Committee, Member, December 2014-March 2015

ECE Graduate Committee, Member, Spring 2011-Fall 2014

ECE Faculty Search Committee, Member, Fall 2014-May 2015

Department Executive Committee, Member, Spring 2013-June 2015

Northrop Grumman-UMBC Graduate Fellowship Committee, Member, Spring 2014-2015

Academic adviser for 15 Undergraduate Computer Engineering Majors, Spring 2014-Present

Mentor for The Center for Women In Technology (CWIT) Scholars, Fall 2015- Present

Judge for Engineering Design Competitions for High School Girls, February 2012

Professional Service

- **Keynote Speaker (Invited)**

The 27th IEEE International Conference on Electronics Circuits and Systems (ICECS 2020), November 2020.

The 14th IEEE Dallas Circuits and Systems Conference (DCAS2020), November 2020.

The 2nd IEEE AI Circuits and Systems Conference (AICAS 2020), Genoa, Italy, September 2020.

- **Organizing Conference and Workshop Activities**

Technical Program Co-Chair, tinyML Research Symposium, March 2023

Tutorial Co-Chair: The 21st IEEE NEWCAS Conference, June 2022

Moderator and Co-Organizer: Evening Session "The Bright and Dark side of Artificial Intelligence (AI)" IEEE International Solid-State Circuits Conference (ISSCC), February 2022

Technical Program Co-Chair, tinyML Research Symposium, March 2022

Special Sessions Co-Chair: IEEE AI Circuits and Systems Conference (AICAS 2021), September 2021

General Chair: 30th ACM Great Lakes Symposium on VLSI (GLSVLSI) Conference, September 2020

NSF Aspiring PI Workshop Organizer: The third workshop of NSF CSR Aspiring PIs, NSF Alexandria, VA, May 2020-cancelled due to COVID-19

Technical Program Chair: The 29th ACM Great Lakes Symposium on VLSI (GLSVLSI) Conference, Washington DC, May 2019

Local Arrangement Chair: The 50th IEEE International Symposium on Circuits and Systems (ISCAS'17) with over 1000 participants, Baltimore, May 2017.

- **Editorial Board**

Corresponding Guest Editor IEEE Journal on Emerging and Selected Topics in Circuits and Systems (JETCAS), 2021-2022.

Associate Editor IEEE Transactions on Biomedical Circuits and Systems (TBioCAS), 2016-2018

Associate Editor IEEE Transactions on Circuits and Systems-I (TCAS-I), 2015-2017

- **Special Session Organizer and Chair**

Special Session Organizer and Chair, "Low Power on-device Tiny Machine Learning Processing for Emerging Applications", 56th IEEE International Conference on Circuits and Systems (ISCAS), Monterey, CA, May 2023

Special Session Organizer and Chair, "Low Power Autonomous and Smart Systems" the 57th Annual Conference on Information Sciences and Systems (CISS), March 2023

Special Session Organizer and Chair: "Low Power Autonomous Systems", IEEE AI Circuits and Systems Conference (AICAS 2022), May 2022

Special Session Organizer and Chair: "Low Power AI-assisted Health Monitoring", IEEE AI Circuits and Systems Conference (AICAS 2021), May 2022

Special Session Organizer and Chair: "Low Power Autonomous Systems", IEEE AI Circuits and Systems Conference (AICAS 2021), May 2021

Session Co-Chair, "Digital and Machine Learning Circuits and Systems", IEEE International Solid-State Circuits Conference-Student Research (ISSCC-SRP), San Francisco, February 2019

Session Co-Chair, "Deep Learning and Biomedical Circuits", IEEE International Solid-State Circuits Conference-Student Research (ISSCC-SRP), San Francisco, February 2018

Session Organizer and Chair, "Efficient Embedded Systems Approaches Enabling Long-term and On-line neuroimaging", The Cognition and Neuroergonomics Collaborative Technology Alliance (CaN-CTA), Special Session, Gainesville, Florida, October 2017

Session Organizer and Chair, "Deep Learning for Embedded Real Time Systems", 50th IEEE International Symposium on Circuits and Systems (ISCAS), Baltimore, US, May 2017

Session Organizer and Co-Chair, "Ultra-efficient Approaches Enabling Long-term, Mobile EEG for Brain Monitoring", 50th IEEE International Symposium on Circuits and Systems (ISCAS), Baltimore, US, May 2017

Session Co-Chair, "Imagers, biomedical circuits and advanced digital systems", IEEE International Solid-State Circuits Conference-Student Research (ISSCC-SRP), San Francisco, February 2017

Session Organizer and Chair, "Wearable Biomedical Big Data Computing Session", 49th IEEE International Symposium on Circuits and Systems (ISCAS'16), Montreal, CA, May 2016

Session Chair, "Biomedical Signal Processing Track", IEEE International Symposium on Biomedical Circuits and Systems (BioCAS), Atlanta, Oct. 2015

Session Chair, "Brain Computer Interface and Processing Track", IEEE International Symposium on Biomedical Circuits and Systems (BioCAS'15), Atlanta, Oct. 2015

Session Chair, "Biomedical Signal Processing and Systems", 48th IEEE International Symposium on Circuits and Systems (ISCAS), Lisbon, May 2015

Session Chair, 24th IEEE International Conference on Application-specific Systems, Architectures and Processors (ASAP), Washington DC, May 2013

Session Chair, 44th IEEE International Symposium on Circuits and Systems (ISCAS), Rio de Janeiro, Brazil, May 2011

Session Chair, 45th IEEE Conference on Information Sciences and Systems (CISS), Baltimore,

March 2011

- **Secretary**

IEEE International Solid-State Circuits Conference-Student Research (ISSCC-SRP), San Francisco, February 2020

IEEE P1890 Standard Committee for Error Correction Coding of Flash Memory, 2013- present

- **Technical Program Committee (TPC)**

IEEE Symposium on VLSI Technology and Circuits, 2022-2023
tinyML Research Symposium, 2020
IEEE AI Circuits and Systems Conference (AICAS 2020), 2020
ACM Great Lakes Symposium on VLSI (GLSVLSI) Conference, 2016-2019
IEEE International Solid-State Circuits Conference-Student Research (ISSCC-SRP), 2013-2020
IEEE Biomedical Circuits and Systems Conference (BioCAS) 2011-2020
IEEE Women in Circuits and Systems Workshop (WiCAS), 2011-2019
IEEE International Symposium on Quality Electronic Design (ISQED), 2012-2015
IEEE Life Science Systems and Applications Workshop (LiSSA), 2011-2012

- **Grant Proposal Panel Member and Reviewer**

Ten NSF Panels at the Directorate for Computer and Information Science (CISE) from 2011-2022
Two DOE Panels at the office of Advanced Scientific Computing Research (ASCR) 2018

- **Reviewer**

IEEE Journal of Solid-State Circuits (JSSC)
IEEE Transactions on Circuits and Systems-I and II (TCAS-I, TCAS-II)
IEEE Transactions on Very Large Scale Integrated Systems (TVLSI)
IEEE Transactions on Signal Processing (TSP)
IEEE Transaction on Biomedical Circuits and Systems (BioCAS)
IEEE Transactions on Neural Systems and Rehabilitation Engineering
IEEE International Symposium on Circuits and Systems (ISCAS)
IEEE International Conference on Computer Design (ICCD)
IEEE International Symposium on Quality Electronic Design (ISQED)
IEEE Biomedical Circuits and Systems (BioCAS)
IEEE International Solid-State Circuits Conference-Student Research (ISSCC-SRP)