

# CSDS 500 and ECSE 500 Spring 2021 Colloquium

11:30AM to 12:30PM  
Tuesday, March 9, 2021

Zoom Webinar ID: 998 2943 6376  
Passcode: 357363

## Micro AI: When Intelligence Moves to the Low Power Sensors

**Abstract:** Artificial intelligence is being used in a variety of edge-computing devices such as biomedical sensors, wearables and autonomous systems. Processing these sensor-level machine learning tasks come at the cost of high computational complexity and memory storage which is overwhelming for these light weight and battery constrained devices. Equally important is the need for designing smarter AI systems that can reason over in the face of a highly variable and unpredictable world. This talk overviews some research solutions that enable performing data analytics from a variety of multimodal sensors in real time while consuming low power. I will also talk about adding reasoning in these systems to improve acting and learning performance. Combining these solutions will bring exciting opportunities for future micro AI processors.



**Tinoosh Mohsenin**  
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**Bio:** *Tinoosh Mohsenin* is an Associate Professor in the Department of Computer Science and Electrical Engineering at UMBC and Director of the Energy Efficient High Performance Computing Lab. Prof. Mohsenin's research focus is on designing tiny low power processors for high computational machine learning and knowledge extraction techniques used in wearables, Internet of Things and autonomous systems. She has over 100 peer-reviewed journal and conference publications and is the recipient of NSF CAREER award in 2017, the best paper award in the ACM Great Lakes VLSI conference 2016, and the best paper honorable award in the IEEE Circuits and Systems Symposium 2017 for developing processors in biomedical and deep learning. She is a Guest Editor in IEEE Journal on Emerging and Selected Topics in Circuits and Systems (JETCAS) and has previously served as Associate Editor in IEEE Transactions on Circuits and Systems-I (TCAS-I) and IEEE Transactions on Biomedical Circuits and Systems (TBioCAS). She was the Program Chair and General Chair of 29th and 30th ACM Great Lake VLSI (GLSVLSI) Symposium in 2019 and 2020, respectively. She was the Local Arrangement Chair for the 50th IEEE ISCAS conference in 2017. She was the Keynote Speaker of the IEEE AI Circuits and Systems Conference (AICAS 2020), 14th IEEE Dallas Circuits and Systems Conference (DCAS2020) and 27th IEEE International Conference on Electronics Circuits and Systems (ICECS) in 2020.

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