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Center for Human-aware Artificial Intelligence

CHAI

CHAI Seminar Series

DATE: **Monday, September 19, 2022, 12:00-1:00 PM**

SPEAKER: **Hai (Helen) Li, PhD**
Clare Boothe Luce Professor and Acting Chair of the Department of Electrical and Computer Engineering, Duke University

TITLE: **Brain Inspired Computing: The Extraordinary Voyages in Known and Unknown Worlds**

REGISTRATION LINK: https://rit.zoom.us/webinar/register/WN_RGHHCD8tQnCdm1kxAzmdxg

ABSTRACT: Human brain is the most sophisticated organ that nature ever builds. Building a machine that can function like a human brain, indubitably, is the ultimate dream of a computer architect. Although we have not yet fully understood the working mechanism of human brains, the part that we have learned in past seventy years already guided us to many remarkable successes in computing applications, e.g., artificial neural network and machine learning. Inspired by the working mechanism of human brain, neuromorphic system naturally possesses a massively parallel architecture with closely coupled memory, offering a great opportunity to break the "memory wall" in von Neumann architecture. The talk will start with a background introduction of neuromorphic computing, followed by examples of hardware acceleration schemes of learning and neural network algorithms and memristor-based computing engine. Dr. Li will also share our prospects on the future technology challenges and advances of neuromorphic computing.

BIO: **Hai "Helen" Li** is the Clare Boothe Luce Professor and Acting Chair of the Department of Electrical and Computer Engineering at Duke University. She received her B.S and M.S. from Tsinghua University and Ph.D. from Purdue University. Her research interests include neuromorphic circuit and system for brain-inspired computing, machine learning acceleration and trustworthy AI, conventional and emerging memory design and architecture, and software and hardware co-design. Dr. Li served/serves as the Associate Editor for multiple IEEE and ACM journals. She was the General Chair or Technical Program Chair of multiple IEEE/ACM conferences and the Technical Program Committee members of over 30 international conference series. Dr. Li is a Distinguished Lecturer of the IEEE CAS society (2018-2019) and a distinguished speaker of ACM (2017-2020). Dr. Li is a recipient of the NSF Career Award, DARPA Young Faculty Award, TUM-IAS Hans Fischer Fellowship from Germany, ELATE Fellowship, nine best paper awards and another nine best paper nominations. Dr. Li is a fellow of ACM and IEEE.