



Dr. Elishai Ezra Tsur

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Author, *Neuromorphic Engineering*

Building a Brain-inspired Computer

Tuesday, February 20, 2024

2:30 pm – 4:30 pm, Room 1N-111

Abstract:

The brain is not a glorified digital computer. It does not store information in registers and it does not mathematically transform mental representations to establish perception or behavior. The brain cannot be downloaded to a computer to provide immortality nor can it destroy the world by having its emerged consciousness traveling in cyberspace. However, throughout history, studying the brain's core computation architecture has inspired scientists, computer architects, and algorithm designers to think fundamentally differently about their craft. Neuromorphic engineers have the ultimate goal of realizing machines with some aspects of cognitive intelligence. They aspire to design computing architectures that could surpass existing digital von Neumann-based computing architectures' performance. In that sense, brain research bears the promise of a new computing paradigm. In this seminar, I will present the contributions of my lab: NBEL-lab.com to neuromorphic engineering in two areas: neurorobotics and vision perception.

Bio:

Prof. Elishai Ezra Tsur is the Principal Investigator of the Neuro & Biomorphic Engineering Lab (NBEL-lab.com), the Chair of the M.Sc program in Machine Learning and Big Data, and an Associate Professor at the Open University of Israel. In his research, Elishai studies the realm of brain-inspired machines. He utilizes artificial brains to develop new frameworks for robotics and vision processing. Elishai Holds degrees in Life sciences (B.Sc), Philosophy and History (B.A), Computer Science (M.Sc), Clinical and Rehabilitation Neuropsychology (M.A), Bioengineering (M.Sc, PhD), and Computational Neuroscience (Post Doc).