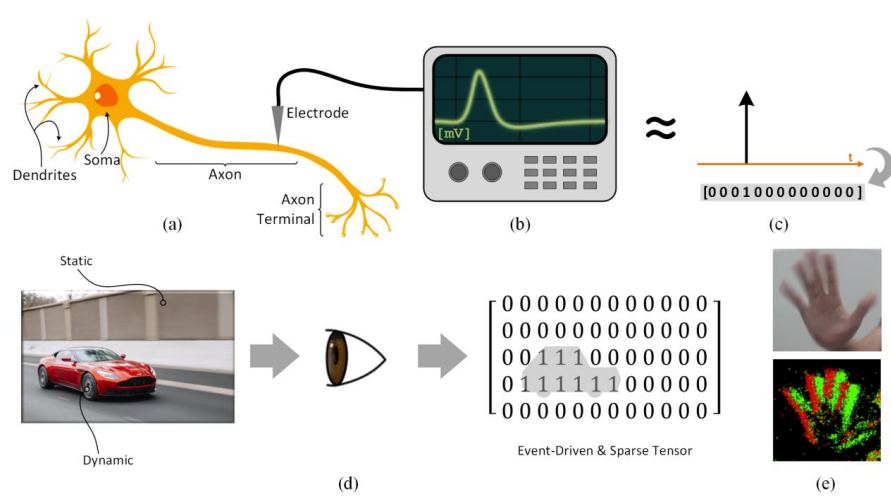


MULTIPLE RESEARCH POSITIONS (UNDERGRADUATE & M.ENG.)

Project proposed by:	Intelligent Sensory Microsystems Laboratory, ECE, U of T Lab for Computing Research and Innovation, York University
Supervisor:	Prof. Roman Genov, Prof. Amirali Amirsoleimani
Project title:	Spiking Neural Network Training, Software/Hardware Platform Design and Implementation
Project description:	<p>In the ISML and LCRAIN labs, we have been researching brain-inspired systems for the next generation of computing hardware which utilize spiking neural networks. Neuromorphic ('brain-like') engineering strives to imitate the computational principles of the brain to drive down the energy cost of artificial intelligence systems. To replicate a biological system, we build on three parts:</p> <p style="text-align: center;">1. Neuromorphic sensors, 2. Neuromorphic algorithms, and 3. Neuromorphic hardware.</p> 
Fig 1. Biological Neurons communicate via spikes.	<p>Here we will investigate and research on all these three streams, and we are looking for multiple candidates who are coming from various backgrounds from Biomedical engineering, software and programming, digital hardware, mixed-signal circuit design:</p> <ul style="list-style-type: none"> • Good knowledge on Neural networks • Knows hardware, software or have biomedical background. • Proficiency in Python, CAD tools and HDL language like Verilog. • Self-driven attitude, preemptive in finding solutions, and interested in both hardware and software.
Contact person:	Dr. Amirali Amirsoleimani (amirsol@yorku.ca); and copy to Prof. Roman Genov (roman@eecg.utoronto.ca). Please include your GPA, study program, and related accomplished projects in the email along with your attached updated CV and all of your transcripts (official or unofficial).