

## **EDUCATION:**

### **University of British Columbia, Vancouver, BC**

#### **Masters of Applied Science – Electrical and Computer Engineering**, Expected June 2018

- GPA: 86.5%
- Course Highlights – Advanced Computer Architecture; Algorithms that Matter; CAD Algorithms; Machine Learning; Parallel Computing; Big Data Systems
- Thesis research currently focused on accelerating Deep Neural Networks.

### **University of Washington, Seattle, WA**

#### **Bachelor of Science – Electrical Engineering - Embedded Computing**, June 2016

- Major GPA: 3.66; Overall GPA: 3.46
- Course Highlights –Computer Networks; Network Security and Cryptography; Microcomputer Systems; Programming Concepts and Tools; Computer Design Organization; Digital circuits and Systems

## **RELEVANT PROJECTS:**

### **DropIn: Continuous pruning during DNN training**

- Developed several algorithms for reducing the number of parameters updated during neural network training.
- Enabled the training of a VGG-16 Based DNN on CIFAR-10 with 7x compression.
- Enabled retraining of Alexnet FC layers with 18x compression.
- Global technique for MLPs, CNNs, and LSTMs.

### **Binary YOLO V2 Network**

- Modified YOLOV2 to use binary weights and activations, resulting in 32x compression.
- Achieved mAP of 54% on VOC 2007.

### **Pushing Fail-Stop Recovery into the Network for Disaggregated Datacenters**

- Design for SDN managed failure recovery in a disaggregated datacenter.
- Reduces number of failures an application programmer must consider.

## **RESEARCH EXPERIENCE:**

### **Graduate Research Assistant**, September 2016 - Present

Department of Electrical and Computer Engineering, University of British Columbia

- Researching DNN acceleration on FPGAs and ASICs.
- Developing algorithms to reduce memory usage during DNN training.

## **RELATED WORK EXPERIENCE:**

### **Lead Engineering Intern**, Silicon Mechanics; April 2014 – Present

- Designed and programmed low level stress testing software for server components. (Python, CUDA)
- Designed and programmed novel automation suite. (Python, RethinkDB)
- Rapid research and development on customer requests.
- Selected and interview candidates for the Silicon Mechanics engineering team.
- Presented teams product to multi-billion dollar company.

## **HONORS AND AWARDS:**

- GSI Scholarship, Department of Electrical and Computer Engineering, University of British Columbia, January 2017
- Summer Undergraduate Research Program, Washington NASA Space Grant Consortium, University of Washington, June 2015
- Best Presenter, US ATLAS Physics Workshop, University of Washington, March 2014
- Honorable Mention at Hack the Commute Seattle, City of Seattle, March 2015