

Resume

Personal Details

Name Philipp Gysel
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Current Employment

09/2016- **Software Engineer at Qualcomm**
current Acceleration of convolutional neural networks.

Graduate Studies

09/2014- **M.Sc. in Electrical and Computer Engineering, University of California, Davis (2 years)**
06/2016

- **Master thesis:** Hardware acceleration of neural networks under supervision of Professor Soheil Ghiasi.
- **Coursework:** Artificial Intelligence, Parallel Algorithms, High Performance Computer Architecture, VLSI Digital Signal Processing, and other courses GPA: 4.0/4.0

Graduate Research

09/2014- **Hardware-Oriented Approximation of Deep Convolutional Neural Networks:**
06/2016 Convolutional neural networks (CNN) have achieved state-of-art performance in many image processing applications. My master's thesis focuses on reducing their resource demands by using reduced precision arithmetic. I am the author of [Ristretto](#), a framework with the following strengths:

- **Automation:** Ristretto performs automatic approximation of any given CNN.
- **Flexibility:** Various approximation schemes are supported.
- **Accuracy:** Ristretto fine-tunes condensed networks to increase classification accuracy.
- **Speed:** Ristretto runs on the GPU and leverages optimized CUDA routines.

Publications

05/2016 P. Gysel, M. Motamedi, S. Ghiasi. **Hardware-Oriented Approximation of Convolutional Neural Networks.** ICLR Workshop, 2016.
01/2016 M. Motamedi, P. Gysel, V. Akella, S. Ghiasi. **Design Space Exploration of FPGA-Based Deep Convolutional Neural Networks.** ASP-DAC, 2016.

Work Experience Before Master's

06/2013- **Embedded Software Engineer, SIX Payment Services, Biel, Switzerland (14 months)**
07/2014 Application software development in C and C++ for electronic financial transactions at point of sale.
08/2012- **Internship at Technion, Israel Institute of Technology, Haifa, Israel (2 months)**
09/2012 Runtime optimization of a tracking algorithm for ultrasound clips.

Programming Languages and Development Tools

C++, C, Java, Matlab, Caffe Deep Learning Framework