Chi Zhang

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Education

- **University of Southern California** — Los Angeles, CA
  Doctor of Philosophy in Computer Science; GPA: 3.95/4.0 — *Aug. 2017 – Present*
- **University of Southern California** — Los Angeles, CA
  Master of Science in Electrical Engineering; GPA: 4.0/4.0 — *Aug. 2015 – Dec. 2016*
- **Southeast University** — Nanjing, China
  Bachelor of Engineering in Information Science and Engineering; GPA: 88/100 — *Aug. 2011 – May. 2015*

Experience

- **University of Southern California** — Los Angeles, CA
  Research Assistant — *Sep 2015 - Present*
  - **Building HVAC scheduling using model-based reinforcement learning**: Learn building HVAC system dynamics using Variational Autoencoder. Apply random-shooting algorithm for planing to minimize the energy consumption while maintaining temperature constraints.
  - **Deep Solar**: Apply deep generative models (Recurrent VAE/GAN) to generate synthetic data for time series data in smart grids.
  - **CNN Accelerator on FPGA**: Develop frequency-domain and winograd based CNN accelerator on Intel QuickAssist QPI FPGA platform.
- **eBay, Inc** — San Jose, CA
  Research PhD Intern — *May 2018 - Aug 2018*
  - Optimizing eBay search engine indexing by pruning bigrams based on user query statistics.
- **University of Southern California** — Los Angeles, CA
  Teaching Assistant
  - **CSCI 360 Introduction to Artificial Intelligence**: Fall 2019
  - **CSCI 350 Introduction to Operating Systems**: Fall 2017, Spring 2018
  - **CSCI 567 Machine Learning**: Fall 2018
  - **CSCI 356 Introduction to Computer Systems**: Spring 2019

Programming Skills

- **Languages**: C/C++ (Pthread, OpenMP), Java, Python, Verilog, SystemVerilog, MATLAB, LaTeX
- **Deep Learning Frameworks**: PyTorch, TensorFlow, Keras
- **Software**: Xcode, Intellij, PyCharm, Jupyter Notebook

Publications

- **Chi Zhang**, Sanmukh R. Kuppannagari, Rajgopal Kannan, Viktor K. Prasanna, Building HVAC Scheduling Using Reinforcement Learning via Neural Network Based Model Approximation, ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation (BuildSys 2019). (Accepted)
- **Chi Zhang**, Sanmukh R. Kuppannagari, Chuanxiu Xiong, Rajgopal Kannan, Viktor K. Prasanna, A Cooperative Multi-Agent Deep Reinforcement Learning Framework for Real-Time Residential Load Scheduling, 2019 ACM/IEEE International Conference on Internet of Things Design and Implementation (IoTDI), April 2019.
- **Chi Zhang**, Sanmukh R. Kuppannagari, Rajgopal Kannan, Viktor K. Prasanna, Generative Adversarial Network for Synthetic Time Series Data Generation in Smart Grids, 2018 IEEE International Conference on Smart Grid Communications (SmartGridComm), October 2018.

- Hanqing Zeng, Ren Chen, **Chi Zhang**, Viktor Prasanna. 2018. A Framework for Generating High Throughput CNN Implementations on FPGAs. In Proceedings of the 2018 ACM/SIGDA International Symposium on Field-Programmable Gate Arrays (FPGA '18).
- **Chi Zhang**, Viktor Prasanna, Frequency Domain Acceleration of Convolutional Neural Networks on CPU-FPGA Shared Memory System, ACM/SIGDA International Symposium on Field Programmable Gate Arrays (FPGA), 2017.
- Abhinav Podili, **Chi Zhang**, Viktor Prasanna, Fast and efficient implementation of Convolutional Neural Networks on FPGA, Application-specific Systems, Architectures and Processors (ASAP), 2017.
- Hanqing Zeng, **Chi Zhang**, Viktor Prasanna, Fast generation of high throughput customized deep learning accelerators on FPGAs, ReConFigurable Computing and FPGAs (ReConFig), 2017.
- **Chi Zhang**, Ren Chen, Viktor Prasanna, High Throughput Large-Scale Sorting on a CPU-FPGA Heterogeneous Platform, 30th Annual International Parallel & Distributed Processing Symposium Workshop (IPDPSW), 2016.

Academic Honor

- **MS Honors Program**: USC Ming Hsieh Department of Electrical Engineering, Fall 2016

Paper Review

- **Invited Review**: Integration, the VLSI Journal 2017, TVLSI, 2019
- **External Review**: FPT 2016, ReConfig 2016, SNAMS 2018, BigData 2020