HENGYANG ZHAO

+1 · (951) · 323 · 9833 ⋄ hzhao@ece.ucr.edu
Department of Electrical and Computer Engineering, University of California, Riverside
900 University Avenue, Riverside, CA 92507

EDUCATION

University of California, Riverside *September 2014 – June 2018 (expected)*
Ph.D. Candidate, in Electrical and Computer Engineering
Advisor: Dr. Sheldon X.-D. Tan

Shanghai Jiao Tong University *September 2007 – March 2014*
M.S., in Instrument and Meter Engineering
B.S., in Computer Science

PROFESSIONAL SKILLS HIGHLIGHT

- **Programming languages** Solid skills in C/C++ and Python.
- **Tools/Platforms** Solid skills and rich project experiences in scripting/automation/batch in Bash and/or Python; experienced in GNU core utilities, GNU sed, Vim, Git, and Linux server (Fedora and CentOS) management and virtualization.
- **Other skills (Good knowledge/experience)**
  - Graph clustering/partitioning algorithm design
  - Web development & deployment (L.A.M.P, docker)
  - Machine learning (logistic regression, recurrent neural network, TensorFlow)
  - Parallel computing (NVIDIA CUDA)
  - Circuit design; FPGA, ARM development
- **GitHub** `https://github.com/hengyang-zhao`

INTERNSHIPS

Synopsys Inc. June 2016 – September 2016
R&D Engineer *Mountain View, CA*

· Research and Development of Generic Multi-Constraint Graph Partitioning/Clusterings Algorithms
- C++ implementation based on Kernighan-Lin and Markov Clustering hybrid methods.
- Quantitative trade-off control between meeting constraints and optimizing target function.
- Web based graph partitioning visualizer.
- Partitioning algorithm generalization and decoupling from application.

Intel Inc. July 2013 - August 2014
Software Engineer *Shanghai*

· Developed tool for automatically testing/profiling run-time data on Android.
· Developed an auxiliary tool to inspect the migration of the relationship between Chrome/Chromium thread and the corresponding CPU core's status within an interested duration.

Cisco Systems Inc. December 2011 – June 2012
Testing Engineer *Shanghai*

· Participated in the automatic sanity test and duration test of Cisco video phones. The actual testing work was to use Tcl script to setup test servers for automatically testing a large amount of phones.
· Maintained two Linux testing servers and resident guest virtual machines.
· Developed and maintained auxiliary scripts/tools to help debugging the testing scripts in Tcl/Tk.

SELECTED PROJECTS

Research on Smart Building Energy Reduction with Special Focus on Learning-Based Techniques March 2015 – present
Research Assistant *UC Riverside*

- Recurrent neural network based approximate thermal modeling in smart building applications.
- People occupancy estimation based on analysis of sensor output.
- Sensor outlier/offset/fault detection using learning and probabilistic/statistical techniques.

Research on GPU-Based Matrix LU Factorization (Direct Approach) for Circuit Simulation September 2014 – February 2015
Research Assistant *UC Riverside*

- Development of a fine grained parallel approach of GPU-based matrix LU factorization algorithm.
- Design Automation Conference 2015 Poster Session (Richard Newton Young Fellowship Program).

FPGA Based Capsule Endoscopy February 2012 - March 2014
FPGA/Verilog Developer *SJTU*

- Participated in the design of wireless capsule endoscopy, including an FPGA-based swallow-able electronic capsule, a wireless data receiver and PC software.
- Implemented Verilog algorithm of color image baseline JPEG on the capsule-end Xilinx FPGA.
- Worked on the digital communication between the capsule endoscopy and the data receiver.

A Medical Data Management System September 2012 – January 2013
Team Leader *Sayes Medical Technology Co., LTD, Shanghai*

- Developed a data management system for managing, browsing, processing and backing up the gastrointestinal data including PH, pressure, and temperature records captured by electronic capsules.
- The management system was based on the server-client model, with one centralized Microsoft SQL Server database and multiple PC clients.

Implantable Physiological Parameters Detector December 2010 – June 2011
Hardware & Software Designer *SJTU*

- The animal physiological parameters detector system consists of a miniature implantable detector for measuring and transmitting ECG and blood pressure and body temperature information, and a hand-held wireless receiver.
- Designed and implemented the wireless receiver, supporting real-time ECG plotting, SD card storage and USB communication.
- Won the 3rd prize of outstanding graduation design in Dept. of Computer Science & Engineering, SJTU.

IEEE Standard Micromouse Contest October 2009
Team Leader *SJTU*

- Designed an micromouse, equipping one ARM Cortex-M3 micro controller, five infrared sensors and two stepper motors.
- The micromouse was placed in and was supposed to solve a IEEE standard 16 by 16 sized maze. Our team won the 2nd prize in the contest of Yangtze River delta division.

SELECTED PUBLICATIONS

1. **Hengyang Zhao**, Zhongdong Qi, Shujuan Wang, Kambiz Vafai, Hai Wang, Haibao Chen, and Sheldon X.-D. Tan "*Learning-Based Occupancy Behavior Detection for Smart Buildings.*" International Symposium on Circuits and Systems
2. **Hengyang Zhao**, Daniel Quach, Shujuan Wang, Hai Wang, Haibao Chen, Xin Li, and Sheldon X-D. Tan. "*Learning Based Compact Thermal Modeling for Energy-Efficient Smart Building Management.*" In Proceedings of the IEEE/ACM International Conference on Computer-Aided Design, pp. 450-456. IEEE Press, 2015