HENGYANG ZHAO

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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, server (Fedora and CentOS) management and virtualisation.
- **Other skills (Good knowledge/experience)**
  - Graph clustering/partitioning algorithm design
  - Web development & deployment (L.A.M.P, docker)
  - Machine learning (neural network, TensorFlow)
  - Mapreduce-like programming
  - Parallel computing (NVIDIA CUDA)
  - Circuit design; FPGA, ARM development

INTERNSHIPS

Google Inc. June 2017 – September 2017
Software Engineer *Mountain View, CA*

· Worked on data-mining in auto-targeting advertisement products focusing on end user's daily cost.
- Designed a daily cost predictor using deep neural network to identify potential higt-cost users.
- Implemented a scalable feature collector to provide training/validation/testing data.
- Tuned machine learning performance motivated by observation data patterns.
- Used Google technologies: BigTable, Borg, F1, FlumeC++, TensorFlow.

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

· Worked on research and development of generic multi-constraint graph partitioning/clusterings algorithms
- Implemented using C++ based on Kernighan-Lin and Markov Clustering hybrid methods.
- Designed a quantitative trade-off control in meeting constraints and optimizing target function.
- Designed a web based graph partitioning visualizer.
- Generalized the designed algorithm into a C++ templated library.

Intel Inc. July 2013 – August 2014
Software Engineer (part-time) *Shanghai*

· Developed a testing/profiling tool to automatically collect 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 (part-time) *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.

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 web-based data management system for managing, browsing, processing, and backing up the gastrointestinal data including PH, pressure, temperature, and other medical info recorded by electronic capsules.

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