HENGYANG ZHAO

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Department of Electrical and Computer Engineering, University of California, Riverside

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EDUCATION

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

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

EXPERIENCE

Research on Smart Building Energy Reduction with Special Focus on Learning-Based Techniques *January 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 techniques.

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

· Developed tool for automatically testing/profiling run-time data on a mobile operating system∗.
· Developed an auxiliary tool to inspect the migration of the relationship between browser∗ thread and the corresponding processor s∗ status within an interested duration.

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.

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

· Developed a data management system for managing, browsing, processing and backing up the gastrointestinal data of 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.

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

· Participated in the automatic sanity test and duration test of Cisco phone models . 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 scirpts in Tcl/Tk.

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.

Undergraduate Innovation Project   October 2009 – September 2010
Team Leader   *Shanghai*

· Designed an LED based, distributed intellectual lighting system. This system was a distributed network of independent lighting nodes with passive infrared sensors. Nodes negotiate and optimize the overall power consumption according to their different lighting demands acquired from the infrared sensors.
· Designed an 100W current-controlled, bulk-type switching power supply.
· This project was sponsored CNY 10000 by Shanghai government.

IEEE Standard Micromouse Contest   October 2009
Team Leader   *Shanghai*

· 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.

PUBLICATIONS

1. **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." International Conference On Computer Aided Design ('15 Invited)

2. **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 ('16 Invited)

3. He, Kai, Sheldon X.-D. Tan, **Hengyang Zhao**, Xue-Xin Liu, Hai Wang, and Guoyong Shi. "Parallel GMRES solver for fast analysis of large linear dynamic systems on GPU platforms." Integration, the VLSI Journal 52 (2016): 10-22.