

Yuhui Zheng

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OBJECTIVE

I am looking for a full-time/intern position in embedded systems or hardware/software co-design.

EDUCATION

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| Purdue University, West Lafayette, Indiana M.S. in Computer Engineering | 08/2012 – 05/2014 GPA: 3.57/4 |
| Beijing University of Posts and Telecommunications, China B.E. in Electrical Engineering | 09/2008 – 06/2012 GPA: 80/100 |

COURSEWORK

Xinu Kernel Design

CS503 Operating Systems

- Implemented new scheduling policies, and inter-process communication mechanisms
- Implemented device drivers for Intel PRO/100 Ethernet Adapter
- Improved two features of Xinu, namely garbage collection, and shell commands

Maze Traversal and Mine Detection with iRobot

ECE568 Embedded Systems

- Designed realtime embedded software on Beagleboard-xM for iRobot
- Designed a dynamic maze traversing algorithm, based on BFS and DFS algorithms

JPEG Decoder Software/Hardware Co-Design

ECE695 System-on-Chip Design

- Built a JPEG decoder software system on NiosII core, DE2 FPGA board
- Developed software/hardware co-design strategies by customizing NiosII core

Micro-architecture Simulation with Gem5

ECE565 Computer Architecture

- Experienced in gem5 simulator, and modification under its in/out-of-order CPU directory
- Acquired knowledge in various cache replacement policies, and memory subsystem

Voltage Scaling on 8-bit Wallace Tree Multiplier

ECE559 MOS VLSI Design

- Fully customized 8-bit Wallace Tree Multiplier in TSMC180, with Cadence tools
- Improved power consumption pipelining multiplier, and scaling down voltage

EXPERIENCE

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|---|--------------------------|
| Institute of Microelectronics, Tsinghua University <i>Research Intern</i> | 09/2011 – 06/2012 |
| <ul style="list-style-type: none">• Participated in designing error control module for Solid-State Drive controller• Acquired knowledge in VLSI signal processing, error control coding, and information theory• Utilized MATLAB and Quartus II to design specific BCH code and its decoder circuit | |

SKILLS

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|------------------------------|---|
| Tools | Altera (Quartus II, ModelSim, Nios II EDS), Cadence (Virtuoso), Gem5, MathWorks (Matlab, Simulink), Google App Engine, Unix (Unix-like) |
| Programming Languages | C / Verilog HDL / Python / JavaScript / HTML Mandarin / English / Korean / Japanese |