

# Shuo Li (Eric)

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Portfolio: <http://shuoli7.github.io>

**Objective:** To obtain an entry-level fulltime application developer or software engineer position

## Education

**University of Illinois at Urbana-Champaign**  
Master of Science in **Electrical and Computer Engineering**

Urbana, IL  
Expected May 2015

**University of Illinois at Urbana-Champaign**  
Bachelor of Science with **Honors** in **Electrical Engineering**

Urbana, IL  
May 2013

## Notable Coursework

VLSI System Design	Systems on Chip (SoC) Design	Theory and Fabrication of Integrated Circuits
Real-Time Systems	Digital Systems Laboratory	Web Applications (Stanford)
Database Systems	Art and Science of Web Programming	Data Structures and Programming Principles

## Projects Experience

**Microprocessor Design and Layout (AMD Am2901 250nm): VLSI System Design** Fall 2012

- Designed, implemented, simulated, and laid out a 16-bit microprocessor datapath with Cadence Virtuoso
- Programmed the controller module in Verilog, synthesized it to a layout, and then integrated it with the datapath
- Wrote test benches in Verilog to perform functional verification for each module with NC-Verilog simulator
- Optimized the logic design, floorplanning, and signal routing to minimize the area of microprocessor layout
- Performed physical verification for each layout in terms of DRC and LVS with Cadence

**Truncation Spurs Free Direct Digital Synthesizer (DDS) Design on FPGA** (master research thesis project) Fall 2014

- Designed and Implemented DDS with traditional structure and DDS with spurs-free structure in Verilog HDL
- Simulated the DDS modules in ModelSim and investigated the sources of spurs in output
- Programmed the DDS designs on FPGA and generated the analog signal by adding DAC and LPF to FPGA output
- Analyzed the outputs with spectrum analyzer to prove the spurs elimination of the DDS with spurs-free structure

**Improved Version of UIUC Online Course Registration System** (database systems project) Fall 2013

- Analyzed client requirements, specified system functionalities to implement, identified integrity constraints in the system, and proposed a schedule that guided the progress of the whole project
- Identified data and the data types involved in the system; designed the conceptual database (E-R diagrams)
- Normalized database schemas to 3NF, which reduced redundancies in the database
- Wrote a parser with Python scripts to read and extract raw data from UIUC course website; documented data into XML files, then populated the MySQL database; wrote PHP scripts to query MySQL database
- Designed and beautified the user interface and webpage with HTML, CSS and JavaScript

**Android Application Development for Remote iRobot (Roomba) Control** (real-time systems project) Fall 2013

- Programmed an iRobot control commands prototype with Python
- Developed an android application with Java on a mobile phone to control the robot remotely
- Operated multiple iRobot control commands via Twitter and realized voice control iRobot with android application

## Skills

- Programming Language:** C++, Python, Verilog
- Web Programming:** HTML/CSS, JavaScript/jQuery, MySQL/PHP
- Tools:** Cadence, Quartus II, ModelSim, Eclipse, GitHub
- Platforms:** Mac OS X, Linux, Windows
- Language:** Mandarin Chinese (Native), English (Full Professional Proficiency)