Nick Liu

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OBJECTIVE

To obtain a hardware or software internship for Summer 2017

EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY **Atlanta, Georgia**

B.S. in Electrical Engineering & B.S. in Computer Science **GPA**: 3.61 *August 2014 – May 2018 (Expected)*

- Relevant Coursework: Circuit Analysis, Digital Design, Digital Signal Processing, Electromagnetics, Microelectronic Circuits, High Performance Computing, Embedded Systems, Computer Architecture, VLSI
- Currently Taking: Processor Design, Operating Systems, Advanced VLSI, Numerical Analysis

EXPERIENCE

Tesla Motors | *Firmware Validation Intern* *January 2017 – April 2017 (Expected)*

- Accepted offer from Tesla for Spring 2017 for a position on the Firmware Validation Team

Northrop Grumman | *Processing Technologies Intern* *May 2016 – August 2016*

- Developed project infrastructure with Tcl, Python, Bash, and Make to increase compile and regression speed
- Created UVM test bench consisting of UVM agent, scoreboard, and sparse memory to test DUT written in SystemVerilog

Georgia Institute of Technology | *Teaching Assistant* *August 2015 – December 2015*

- Helped facilitate labs involving rapid prototyping, FPGA design, oscilloscopes, state machines, VHDL, and Assembly

RESEARCH

Georgia Institute of Technology | *Undergraduate Research Assistant* *August 2016 – Present*

- Conducting research under Professor Hyesoon Kim on SIMD GPGPU architectures
- Developing parallel processor on FPGA using Chisel, an open source HDL

Reconnaissance of Space Objects (RECONSO) | *Undergraduate Researcher* *January 2016 – Present*

- Created power management PCB to connect electrical power system to all parts of CubeSat
- Developed Arduino code to interface with electrical power system using I^2C

Vertically Integrated Program | *Undergraduate Researcher* *January 2016 – May 2016*

- Working to develop smart city infrastructure with FPGAs to interface with sensors
- Developing GPIO system for Xilinx board to interface with feedback system

Georgia Institute of Technology | *Undergraduate Research Assistant* *August 2015 – Present*

- Creating a framework for migrating and testing 3D stacked memories to new FPGA hardware with OpenHMC
- Conducting memory characterization on hybrid memory cube using GUPS

Georgia Institute of Technology | *Undergraduate Research Assistant* *August 2015 – December 2015*

- Worked on application to be used towards collection of data on approximate computing
- Modified CMU Sphinx code to purposely degrade quality of voice recognition and collected data

TECHNICAL PROJECTS

nQueens Solver (C++, OpenMPI) - Solved n-queens problem in parallel using OpenMPI with master slave paradigm.

32-Bit Carry Look Ahead Adder (Cadence, HSpice) - Created layout for 32 bit adder in Cadence and simulated with HSpice

Map Bot (mbed, C++, C#) – Created robot that autonomously moved and mapped a room from IR sensor data and sent serial data wirelessly to PC through multithreading

Buzz Movie Selector (Java, JSF, JSON, xHTML, CSS) - J2EE website for movies using REST services from Rotten Tomatoes.

Accurate Position Control for DE2Bot (Assembly, FPGA (Quartus), VHDL) - Implemented SCOMP instruction set on FPGA with VHDL. Programmed accurate point to point assembly subroutine for DE2Bot.

Pipelined Processor (Logisim) - Created pipelined processor in Logisim with flushing, stalling, and data forwarding.

TECHNICAL SKILLS

Programming:	VHDL, Verilog/SystemVerilog (UVM), Java, C, C++, MATLAB, MPI, Assembly, Python, Tcl, Bash
Software:	Linux, Quartus/Vivado, Modelsim/Questasim, Spice, Cadence, Eagle, Multisim, Subversion, Git
Hardware:	FPGA, Microcontroller, Oscilloscope, Function Generator, Logic Analyzer, Soldering

ACTIVITIES

Georgia Tech Crew *January 2015 – August 2015*

- Participated in intercollegiate rowing club and practiced six days a week and competed in various Regattas