**Chaitanya R. Patchava**

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**EDUCATION**

**Stanford University September 2013-Present**

**Masters in Computer Science**

**University of Illinois at Urbana-Champaign August 2009 - 2013**

**Bachelor of Science in Computer Engineering**

**COURSES – Towards Masters**

Machine Learning

**WORK EXPERIENCE**

**Cisco Systems** San Jose, CA

*ASIC Hardware Design*  Aug 2013 - Present

* Designed a System Verilog Test bench for the Access Control Protocol block
* Wrote software APIs in C and C++ to integrate with RTL to compare real time data from RTL to software model
* Created a regression dashboard utilizing bootstrap for display framework along with Morris JS Graphs with a LAMP setup as the backend.
* Wrote the System Verilog code for the LED module in the Nexus 3500 switch series.

**Tivo Inc**Alviso, CA

*Software Driver Intern* May 2011 – Aug. 2011

* Designed drivers in C to take temperature measurements as input variables of hardware unit
* Manipulated a GPIO chip in order to interface with the fan unit
* Utilized input temperature readings to dictate whether to increment or decrement speed of fan

**Everitt Lab** Champaign, Illinois

*Head Lab Technician* Jan. 2010 - May 2011

* Developed various required hardware technologies eg. Current Amp., Rectifier, Operational Amp., etc
* Tested and troubleshooted problems by using oscilloscopes and function generators
* Organized and set work schedules to produce results efficiently and to meet required deadlines

**SKILLS**

**Programming:** C,C++, Verilog, System Verilog, HTML, Perl, Python,x86, Assembly, VHDL, VLSI, BASH, Tk, Cuda, PHP, Java, SQL, Java Script, CSS.

**Hardware:** Altera Cyclone II FPGAs, Arduino, Oscilloscopes, Logic Analyzer, Function Generator, Multimeter, Raspberry Pi.

**Software:** Verdi, Debussy, RT, Design Compiler.

**PROJECTS**

**Designed a naïve bayes classifier for safest path** *Programmed in Perl*

* Wrote a spider to crawl onto local sheriffs street crime reports
* Took that data and then analyzed using a naïve bayes classifier to determine the safest path
* Used google maps APIs to give step by step directions for users.

**Designed a home automation system** *Programmed in C*

* Utilized Cypress power line networking chipset as the form of communication in home
* Used an MSP430 as the microcontroller on the power sockets to interpret results from the Cypress chips
* Had a Raspberry Pi as the hub which had control of all the modules in the home.

**Design of a Pipelined Microcontroller** *Programmed in VHDL*

* Designed a full microcontroller, was a fully capable five stage pipeline processor
* Created an L1 and an L2 eight way set associative cache with a true LRU

**Operating System Design** *Programmed in C*

* Wrote a kernel from scratch, included the capability to run multiple programs and different shells simultaneous
* Learned how to design and write a scheduler in order to most effectively process tasks
* Created an ISO of operating system and utilized QEMU as a testing platform to run “Chaitanya-OS”

**RFID-tag music player** *Programmed in C/Bash*

* Used an RIFD reader connected to an Arduino in order to ping for tag values within range
* Programmed the Arduino to respond to a tag by sending tag value to computer through serial port
* Interpreted the incoming RFID tag values as names of playlists utilizing BASH to make the system calls

**ACTIVITIES**

**Alpha Iota Omicron**

* National president of fraternity, delegating work amongst board and taking details and setting guidelines per chapter
* External Vice President in charge of dealing with other organizations on campus for coordinated events