Harrison Sheng-Yu Tsai

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Education

University of California, Berkeley
B.S. Electrical Engineering & Computer Sciences, 2015 (Expected)
Relevant Coursework: Computer Programs, Data Structures, Machine Structures, Systems & Signals, Communication Networks, Microeconomic Analysis, Productive Use of UNIX, Intro to Wall Street

Work/Volunteer Experience

Industrial Relations Officer *August 2012 to present*

IEEE UC Berkeley Chapter Berkeley, CA

- Organize and assist with on-campus corporate info sessions and tech talks
- Assist in planning and executing the biannual, student-run UC Berkeley Startup Fair
- Managed a project to design and promote a corporate sponsorship package

Helpdesk Program Assistant *August 2012 to present*

UC Berkeley IRIS/EECS Department, Berkeley, CA

- Diagnose, troubleshoot, and resolve technical problems on Windows, MacOS and UNIX
- Provide support for graduate students, professors and research groups
- Use Request Tracker ticket-tracking system to answer requests for computing help

Software Engineering Intern *July-August 2012*

Beyond Consultancy, San Francisco, CA

- Created scripts, queries, and web apps to help the analytics team efficiently obtain data from social media
- Taught non-technical associates how to use the software tools and make basic social media API queries
- Updated backend components to be more efficient

Technical Support Assistant *May-August 2010, 2011*

InfoVision Consultants, Inc., Richardson, TX

- Built and organized company's digital repository
- Reorganized company infrastructure
- Assisted in laptop and computer upgrades

Charity Fundraiser Founder *2010 to present*

Legolets

- Planned and executed a fundraising project for underfunded charities
- Designed, created and sold Lego bracelets for kidney cancer awareness
- Raised over $150 within a month and donated to a family whose mother passed away to kidney cancer. Also raising money for lung cancer awareness.

Eagle Scout Project *August-October 2010*

Heritage Farmstead Museum, Plano, TX

- Planned and executed project to renovate an herb garden and build a picket fence around it.
- Planning with directors, calculating information, and gathering materials took two months.
- Actual execution was planned for three days, but only took two days because of extra volunteers and efficient processes.

Programming Experience

Experience in Python, Java, and C. Knowledge in HTML, CSS, JavaScript, SQL, Git, UNIX

- Created a variation of the Snake game in Java and GridWorld. A group of three finished in two weeks
- Designed a program in Python that maps Twitter tweets around the nation. Presented states' attitude on a subject using sentiment aggregation in the tweet. Completed in a weekend
- Created an intelligent computer player in Java for the board game Network. A group of three finished in two weeks
- Created a web scraper in Python to find when classrooms are occupied at UC Berkeley. Used SQLite3 to organize data. A team of two finished in two nights
- Created a web app that used multithreading to get the full URL of multiple Twitter t.co links. Written in Python and utilizes Flask and Jinja frameworks. Finished in a week.
- Created a web app that gets any website's interaction data (shares, likes, comments) within Facebook. Used Facebook Graph API, Python, Flask, and Jinja. Completed in three days.
- Created a web app that scrapes content from various sources including Wordpress blogs, Facebook pages/groups, and LinkedIn group discussions. Used XML feeds, Facebook API, LinkedIn API, Python, Flask, and Jinja. Completed in three weeks.
- Created website to find open classrooms at UC Berkeley. Used PostgreSQL, Flask, Jinja, and Heroku. Still in progress
- Designed a program in Java to produce an ordered list of n-gram co-occurrence rates in small and large documents. Used Hadoop on Amazon EC2 servers.
- Designed and implemented a reliable transport protocol in Python. Optimized network resource efficiency using sliding-window algorithm.
- Took advantage of caching and parallelism to improve the performance of matrix multiplication. Used C, SSE instructions, and OpenMP.
- Created a learning switch/bridge and a router implementing Routing Information Protocol (RIP) in Python. RIP router included split-horizon routing with poison reverse and handled link failures and implicit withdrawal.
- Designed a 16-bit two-staged pipeline processor in Logisim that implemented ALU, register, and memory operations.