Chenyang Yuan

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http://www.github.com/yuanchenyang http://www.chenyang.co

Education

Major in Computer Science, Minor in Physics Expected Graduation: May 2016
The University of Berkeley at California, Berkeley, CA GPA: 3.94

Technical Skills

Proficient in Python, Haskell, Javascript, Java, C, LaTeX, Emacs, Git
Experience in Rust, Scheme, jQuery, d3, HTML, Hadoop, Android, SQL, Assembly

Work Experience

Undergraduate Student Researcher, *UC Berkeley* *Spring 2015 – Present*

- I work on traffic research with Professor Alex Bayen. One project I'm working on is inferring route flows of cars from cellular connection data. Another project I'm working on involves using queueing theory to investigate possible attacks on on-demand taxi networks by calling taxies and then canceling the calls.

Undergraduate Student Researcher, *UC Berkeley* *Spring 2014 – Fall 2014*

- I worked with Professor Ras Bodik on the synthesis of a layout engine for an experimental browser, Servo. I helped built a backend which generates a layout engine in Rust, which replaces the hand-written layout engine in Servo.

TA for Discrete Math and Probability, *UC Berkeley* *Spring 2015*
TA for Structure and Interpretation of Computer Programs, *UC Berkeley* *Fall 2013 – Fall 2014*
Software Engineering Intern, *Clover* *July–August 2013*

- Built an API auto-documentation system; designed and build an API Explorer
- Created demo app using Clover's API: `https://github.com/clover/example-server`

Selected Projects

Linear Algrbra DSL `https://github.com/yuanchenyang/llvm-linear-algebra-dsl`
An open-ended project for a compilers class. First created a set of tools for building domain specific languages (DSLs) using LLVM for code generation and created a DSL for linear algebra operations introducing lots of domain-specific optimizations. Then implemented an edge detector and part of an optical flow estimation algorithm using the DSL.

Facebook Group Archiver `http://archiver.chenyang.co`
A tool for saving Facebook groups in a local database and doing comprehensive searches locally. After the first download, it will sync the local database with the Facebook group during each run. Also includes a web-interface for stats, searching and doing database queries.

Interactive SICP Textbook `http://xuanji.appspot.com/isicp/1-1-elements.html`
Made an interactive version of the classic Structure and Interpretation of Computer Programs book with my friend. I created the asynchronous Javascript-based Scheme interpreter used on the website.

Self-Balancing Robot `http://youtu.be/Ps0Ex3ADR6k`
An open-ended project for my physics electronics lab class, built a self-balancing robot from scratch. Programmed a controller for it on an Arduino board.

Selected Awards

First Place, Cal vs Stanford Big Hack *2013*
Created a scheme interpreter in C on my TI-89 graphing calculator
Honorable Mention, 12th Asian Physics Olympiad *2011*
One of the 8 students representing Singapore in this competition.

Selected Coursework

CS: Graduate Algorithms and Theory, Compilers, Security, AI, Randomized Algorithms

Math: Complex Analysis, Honors Abstract Algebra (mainly covering category theory)

Physics: Analytical Mechanics, Quantum Mechanics, General Relativity, Electronics Lab