

Szu Han Chang

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Experience

Technical Consultant / Freelance Web Developer, *Initiatives for China* *Summer 2008*

Initiatives for China is an organization dedicated to the peaceful transition to a democratic China. As such, most of their communications are sensitive to prevent retaliation from the current Chinese government.

- Redesigned old website at <http://old.initiativesforchina.org> which required HTML/CSS knowledge to update, resulting in a WordPress based website which provides a more professional web presence as well as easier content management by non-technical staff.
- Developed a custom PHP/MySQL address book application using an MVC framework to securely store and look up contacts.
- Set up a secure Linux mail server from scratch to send and receive sensitive communications, saving the organization 20 hours a week by reducing the need for in-person meetings to exchange information.

Student Consultant Analyst, Boston University Information Technology *2004 - 2008*

- Youngest hire to date in the department (second semester freshman).
- Assisted students & faculty in person and over the telephone with various technological issues such as troubleshooting internet connectivity, wireless access, e-mail account problems and mail/disk/print quota maintenance.
- Trained new hires in job responsibilities.
- Programmed Xtally, an AJAX widget to record client information for departmental reports and statistical analysis.

Satellite Communication Software Intern, MIT Lincoln Laboratory *Summer 2007*

- Designed and implemented a filter for separating satellite messages, cutting debug time by 300% by only showing relevant acknowledge and error messages.
- Added datasets consisting of an XML/Java GUI frontend for input and a C++ backend for various satellite protocols in a production environment.

Research Assistant, Boston University Department of Molecular Biology *Summer 2006*

- Set up and maintained a dedicated Linux server to run simulations.
- Ran Kinetic Monte Carlo simulations of protein folding and converted output into graphical results for analysis.
- Identified simulation bottlenecks and suggested optimizations.

Open Source Developer, Google Summer of Code / Horde *Summer 2005*

- Developed a beta version of Sedule, a web-based employee scheduling program using HTML, PHP, Javascript, CVS for the Horde framework.
- Worked directly with BU IT staff and Chuck Hagenbuch (mentor from Horde) to meet deliverables deadlines.

Education

Boston University, BA/MA in Computer Science *May 2008*

GPA: **3.59** in computer science, **3.51** overall - Cum Laude

- Earned both the Bachelor of Arts in Computer Science and Master of Arts in Computer Science in four years.
- Selected and served as graduation speaker for the BUCS class of 2008.

Projects

Master's Project, *Using Time Delay Neural Networks to Predict Stock Market Movement*

My master's project consisted of two modules: Metis was a rule-based expert system written in Java for the automatic identification of technical indicators in historic stock market data. Midas was the time delay neural network built with the Java Object Oriented Neural Engine (Joone) and trained on the indicators detected by Metis as input.

<http://cs-people.bu.edu/halo/masters>

Java CameraMouse, <http://www.cameramouse.org>

CameraMouse is an assistive technology program that allows the use of a mouse to people who are unable to control their hands. It enables mouse control by tracking a facial feature of the user through a simple, inexpensive webcam and translating it into the corresponding mouse motion. I am working with Professor Margrit Betke of Boston University to rewrite the CameraMouse program in Java to allow cross platform compatibility through JMF, the Java Media Framework. This will let Mac and Linux users have access to the same assistive technology, which is currently written in C#.

CoFounder of FuelForHire, <http://www.fuelforhire.com>

FuelForHire was a startup begun by myself and two other classmates from Boston University, built to solve the problem we were having of finding good jobs by letting people exchange candid information about their company. It was built on CodeIgniter, a PHP MVC framework and a MySQL backend. We discontinued the site in July 2008 as my cofounders wanted to concentrate on their careers.

Coursework

Fundamentals of Computing Systems, Spring 2006

- Wrote simulators to ensure that systems with processes competing for resources never entered deadlock or livelock through the use of semaphores and mutexes.

Operating Systems, Fall 2006

- Wrote a threadpool manager for a multithreaded video server in C.
- Coded a basic filesystem in C complete with mkdir, rmdir, create, open, close, and seek.

Databases, Spring 2007

- Designed and wrote a bookstore console based application in Java using JDBC and Oracle.

Software Engineering, Fall 2007

- Served as project lead for my group.
- Discovered each group member's strengths and delegated tasks accordingly.
- Ensured project deliverables were completed by the deadline.
- Assisted with any technical problems presented by group members.

Technical Skills

Intimate familiarity with Linux / UNIX and a power user in XP, Vista, & Mac OS X.

Knowledgeable about system administration, especially in Ubuntu.

Extremely comfortable in command-line / non-graphical and remote environments.

Strongly prefer vi as text editor of choice with mastery of most features.

Well versed in web development; all coding done by hand. See personal website for portfolio.

Programming Languages: Java, PHP, Perl, bash, C++, C

Version Control: Subversion, CVS, IBM/Rational ClearCase, Git, Bazaar

Databases: MySQL, Oracle, SQLite

Web Technologies: HTML, CSS, JavaScript, AJAX, XML, Ruby on Rails, J2EE / JSP, REST

Fluent speaker of Mandarin Chinese.

Naturalized US Citizen.