Kristi Tsukida

curious / analytical / thinker

smart / versatile / self-starter

engineer / creator / nerd

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Skills

- **Fields:** machine learning, web and mobile full-stack programming, electrical engineering, robotics, microcontrollers, probability and statistics, image and audio processing, *nix scripting, data mining
- **Programming languages:** Python, C/C++, Objective-C, Matlab, Bash, Awk, Sed, Ruby, Javascript, HTML, CSS, ActionScript, Go(lang)
- **Software and frameworks:** iOS, Mac, Linux/Unix, Windows, Django, JQuery, Git/SVN, Photoshop, Illustrator, Numpy/Scipy, CUDA GPU parallel programming, OpenCV

Experience

Software Engineer

Twistle - Small startup devoted to improving health care by facilitating delightful doctor-patient communication, 2012-2013

- Develop Django/Python backend support and web and mobile UI for social networking platform
- Architected an internal iOS framework for form display and data gathering (Objective-C/iOS)
- Implement CocoaPods iOS library management to separate outside code and maintain internal patches
- Script custom XCode command to delete app from the simulator to facilitate clean installation and core data debugging
- Replace old unmaintainable web tests with Python Selenium-based web UI unit tests in Jenkins continuous integration framework
- Add Github's Hubot chat bot and custom scripts to the company's Campfire chatroom

(Coffeescript)
- Participate in UI/UX design development discussions

Graduate Researcher - Machine Learning

Intelligent Design Lab - Prof. Maya Gupta, University of Washington, 2010-2012

- Convex-optimization based improvement of paired comparison analysis. Applications include scoring subjective comparisons and tournament rating systems.
- Bayesian maximum a posteriori probability inference of precise protein binding locations in DNA from ChIP seq data
- Teaching assistant for Electrical Engineering classes
- Sysadmin for lab's private Linux cluster

Software Developer and Electrical Engineer

Intellisys Corp. - Startup utilizing neuroscience research for building artificial brain-based devices, 2007-2009

- Rewrote the core neural simulation processing algorithm (C/Nvidia CUDA GPU) to boost processing speed over 2x
- Integrate voice commands using CMU Sphinx (C), webcam capture and processing using OpenCV (C++), video preprocessing, and proximity sensor collision prevention for control of autonomous embodied robot over wireless network
- Patent US20110119057: Neural segmentation of an input signal and applications thereof

Electrical Engineer

Calit2 (California Institute for Telecommunication and Information Technology), 2006-2007

- Enable modular sensor input, motor control, and wireless control for a robotic platform by designing custom AVR microcontroller circuit board (Eagle PCB), firmware (C), and API
- Develop remote control protocol and interfaces for cell phone (Bluetooth) and computer (802.11 wireless)
- Work on motor control system and interface for a high resolution multi-spectral art scanner

Assistant Sysadmin

San Diego Supercomputer Center (SDSC)/Protein Database (PDB), (part-time) 2004 - 2006

- Wrote custom Bash scripts for Nagios installation and Nagios plugins to monitor a distributed network of servers
- Setup and maintained SVN server
- Led student team and documented procedures

Education

Master of Science, Electrical Engineering (Machine Learning)
University of Washington, GPA: 3.8

Bachelor of Science, Electrical Engineering
University of California, San Diego
Regents Scholar, Provost's Honors, Major GPA: 3.8

Extra Hacking

- [Hackerrank CodeSprint 5](#) global programming contest - placed in top 10% of participants, solved 3 challenges using go
- [Seattle Women's Startup Weekend 2012](#) - Developed Place.me prototype - discover local neighborhood flavors when booking hotels online
- Designer/developer of
  - [Taikonome.com](#) - online taiko metronome (ActionScript/Javascript/CSS/HTML),
  - [gotNihongo.com](#) - easily translate and search in Japanese,
  - [Command-Py](#) [kristi.github.io/command_py] - experimental Python documentation search tool inspired by the VIM plugin Command-T,
  - [Sniper](#) [mrglmrgl.com] - a code snippet blog-like engine using Django/JQuery
  - [InochiTaiko.com](#)
- Open source contributions to multiple projects including Gollum, Jinja2, Linux MultiMedia Studio, SparkleShare, Meld
- More about me and my projects [kristi.github.com](#)

Just For Fun

- Over 2k points on [StackOverflow](#)
- Solved over 50 [Project Euler](#) problems (mathematical and algorithmic programming puzzles)
- Nerdy blogger - (I like to document and share things I've learned) [moosechips.com](#) and [nerglish.tumblr.com](#)
- Performed Taiko (Japanese drumming) for 2009 World Baseball Classic (Naruwan Taiko) and 2011 North American Taiko Conference's Taiko Jam concert (Inochi Taiko)
- I have successfully thrown and caught a boomerang