

Zhen Elizabeth Fong-Jones

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Objective:

To obtain a senior role involving systems administration and software engineering in a fast-paced (but not frantic), challenging, multidisciplinary, and large-scale environment.

Skills: (key: **use/administer daily**; proficient)

- Programming languages: **Java, C, C++, Python, shell script**, Javascript, PHP, Perl, Haskell, Mathematica
- Markup languages and web technologies: **XHTML, CSS**, GWT, AJAX, XML-RPC
- Operating systems: **Linux (Ubuntu, Debian)**, Windows (95-2000, ME, Vista, XP/2003 Server), Mac OS X, OS X Server, Cisco IOS; Gentoo/Red Hat/Fedora Linux, FreeBSD
- Services/utilities: **Apache, grub, iptables, Kerberos, MySQL, OpenLDAP, OpenSSL, Perforce administration, Postfix, RAID**, amavisd-new, AFS, Bind, Courier, CUPS, Dovecot, Jabber, mvnForum, MediaWiki, phpBB, Postgresql, pxelinux, Snort, SpamAssassin, Splunk, Subversion/SVK
- Administration: **project management**, inventory management, software contract negotiation

Work Experience:

- **Senior Site Reliability Engineer** at Google (www.google.com) *Jan 2008-Jan 2012*
 - Served in on-call rotations for employee productivity apps, for BigTable service, and for Google Books.
 - Led productivity apps team's disaster preparedness, privacy/security, and Sarbanes-Oxley efforts.
 - Migrated legacy applications onto Google's cloud computing infrastructure, wrote automation tools.
 - Led effort to migrate Perforce servers from Red Hat to Ubuntu and wrote tools to verify replication integrity.
 - Currently lead reliability and launch planning efforts for Google eBooks.
- **Technical Operations Manager** at Three Rings Design (www.threerings.net) *March 2005-Jan 2008*
 - Programmed new features, triaged/fixed bugs for *Puzzle Pirates* (<http://www.puzzlepirates.com>).
 - Oversaw cheat detection, ran log forensics, responded to downtime events on on-call basis.
 - Wrote in-game support ticket system and web support contact form integrated with account system.
 - Provided technical assistance to live support staff, moderated customer technical support forum.
 - Designed dynamic website architecture, spearheaded company's first web analytics initiative.
- **Student Researcher** at California Institute of Technology and Stanford *June 2006-August 2007*
 - Researched the function of *CLE9* (a putative member of the CLV gene family in *Arabidopsis thaliana*) in regulating stomatal development under summer research grants from the Caltech *Summer Undergraduate Research Fellowship* program and as part of independent biology research for credit during school year.
 - Constructed plasmids, designed primers, created mutant lines, used SEM and laser confocal microscopes.
- **Lead Sysadmin** of the Undergraduate Computer Science cluster (www.ugcs.caltech.edu) *Feb 2006-Jan 2008*
 - Led complete overhaul of student volunteer-run UGCS computing cluster at Caltech.
 - Established network infrastructure including bridging, snort, VMPS; configured LDAP, OpenSSL CA, Apache, MediaWiki, Postfix; collaborated with other sysadmins on AFS file servers, Kerberos, BIND.
 - Managed hardware/software purchases, oversaw planning/specification/grant writing.
- **Student House Rep** of Information Management Systems and Services, Caltech *February 2006-Jan 2008*
 - Managed Dabney/Blacker house computer labs (XP/2003/Vista, OS X, Linux) and house web/file servers.
 - Provided technical support to students experiencing difficulties with campus network, e-mail, software.
- **Contract Software Engineer** for Demidec (www.demidec.com) *June-Aug, 2005*
 - Designed/implemented testbank in PHP backed by MySQL to store ~30,000 flashcard quiz questions.
- **Systems Administrator** at College Preparatory Mathematics (www.cpm.org) *June-Aug, 2004 and 2005*
 - Set up and managed fileserver, backups, centralized printing, networking switches, laptop system images.
 - Supported team of 30 math teachers preparing a textbook using OS X 10.3-4, Word 2004, and MathType.
 - Authored calculator programs and Geometer's Sketchpad standalone Java applets included with textbook.
 - Adapted testbank software for use by teachers to create tests (<http://assessment.cpm.org/sample.php>).

Education:

- February 2012-present – undergrad at the Massachusetts Institute of Technology (Cambridge, MA); BS in CS expected June 2014
- September 2010-December 2011– special student at the Massachusetts Institute of Technology (Cambridge, MA)
- Sept 2005-Jan 2008 – undergraduate student at the California Institute of Technology (Pasadena, CA); completed 70% of BS in Computer Science with significant coursework in Biology
- Sept 2001-Jun 2005 – received high school diploma from the College Preparatory School (Oakland, CA).

Teaching Projects and Open-source Software:

- **Panelist** at 2010, 2011 Brown Artemis 8th grade program, Google FUSE diversity summit for college freshmen
- **Instructor of game design classes** during 2008/2009 Google Computer Science Summer Institutes (<http://www.google.com/intl/en/jobs/cssi/index.html>) for minority college freshmen; program as a whole provided intensive computer science coaching to improve minority retention rates for CS programs. Students created games during 3 hour session using libraries I wrote/provided.
- Author, **AFS cgi-wrapper and php-wrapper** (<http://www.ugcs.caltech.edu/~elizabeth/cgi-wrapper>) allowing execution of CGI/PHP from user public directories with subset of user filesystem permissions.
- Author, **mvnForum unread status tracking** (<http://mvnforum.com/mvnforum/viewthread?thread=2729>)
- Author, **FlatExport MediaWiki extension** (<http://www.ctyalcove.org/~elizabeth/FlatExport.tar.gz>) – dumps pages and associated images from a given namespace into flat files that can be used in a high-traffic situation using SSI and yet remain easily edited and updated by users with no knowledge of HTML.
- Author, **bookswap** tool (<http://67.102.20.42/bookswap/>) – enables high school students to sell used textbooks to those taking the same classes the next year; written in 2005 and still in use at multiple schools.
- Author, **hiptop-sdk-contrib** – extended Java 1.4-based hiptop SDK to integrate Proguard for obfuscation, optimization, and Retroweaver for Java 5 language features. Adopted into core hiptop libraries by Danger.

Awards:

- Received multiple peer bonuses from coworkers, spot bonuses, citizenship award from Google management.
- 2005 National Merit Scholarship Finalist; 2005 AP Scholar with Distinction; member, Cum Laude Society; selected for University of California ELC admission (ranked top 4% in high school graduating class of 80).
- Member of Johns Hopkins Study of Exceptional Talent (<http://cty.jhu.edu/set>).

Goals:

I relish the challenge of crafting and nurturing complex software projects from start to finish, beginning with raw ideas and ending with refined, well-documented, stable, mature solutions. I love to sculpt systems that simplify the work that others need to accomplish. I enjoy having my labor enable thousands of people across the world to connect with each other. I appreciate being able to apply the full range of skills I have to problems and stretching the limits of my knowledge. I've always taken initiative to organize efforts and to think outside the box when pinpointing potential problems and devising solutions. I seek to expand my knowledge and grow my set of skills. In general, I value a meritocratic, bottom-up environment in which team members independently propose ideas and influence final designs. I believe I will be most productive where I can be involved in large-scale design and be involved in all facets of projects rather than confined to a single role; I'd like to avoid becoming a faceless drone or a cog in the machinery.

In my first major project at Three Rings, I created a unified support ticket system to handle customer petitions, complaints, and disciplinary actions from multiple game servers in order to ease the workload of the live support team, allowing for a 400% increase in customers/ticket volume with no additional support staff. My work with UGCS involved collaborating on the specifications/plans and leading a team of three other volunteers in building from scratch a full-featured academic computing cluster currently supporting 1,500 active users to replace an aging cluster whose original components dated to 1989. At Google, I have been a key contributor to my projects and exercised technical leadership in many different areas.

References:

References are available upon request.

Other Activities/Interests:

Hiking, cross-country skiing, Alaska

In the fall of 2010, I spent two weeks working at Camp Denali/North Face Lodge in Alaska.