www.awadah.me

San Francisco, CA

Mishal Awadah

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EDUCATION

University of Pennsylvania *Philadelphia, USA*
- **Master of Science & Engineering** Computer & Information Science — May 2013
- **Bachelor of Science & Engineering** Computer & Information Science — May 2011
- **Minor** Mathematics

Ibn Khuldoon National School *Bahrain* — May 2007
- **International Baccalaureate Diploma** & U.S. High School Diploma

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SKILLS

Programming Languages:
Python, Swift, C, Objective-C, Java, Shell Script, HTML/CSS, Javascript, C++, Assembly, Elisp, Haskell, OCaml

Technologies:
Emacs, Unix Command Line Tools, Compiler Tools & Debuggers (lldb, gdb), Source Control (Git, SVN), Xcode, AppKit/UIKit, Apple Frameworks, Django, Eclipse, LaTeX, MATLAB, SQL, MongoDB

Areas of Expertise:
Application Development (Mobile, Desktop, Web), Automation & Continuous Integration, Quality Assurance, Software Engineering & Project Management, Server & Network Programming, Compilers, Computer Architecture, Distributed Systems, Computer & Network Security, Machine Learning, Entrepreneurship

Spoken & Written Languages:
English, Arabic, French

PROFESSIONAL EXPERIENCE

Xcode QA Engineer *Aug 2013 - Present*
Apple Inc. Cupertino, CA
- Oversaw Swift-on-Linux open source release, including QA and project coordination between key Linux projects.
- General improvements & automation solutions to the Swift build system & infrastructure.
- Designed & implemented (in Swift) a low-level, cross-platform (OS X & Linux), multi-threaded testing server supporting multiple clients wishing to run tests on a variety of platforms and architectures.
- Created iOS test apps and utilities, including a multi-user CloudKit WWDC concierge app in Swift.
- Designed & implemented a scalable, multi-node test & automation infrastructure for testing Xcode against all Apple platforms, which runs hundreds of UI & script-based tests per hour.
- Implemented UI features for Xcode, the UI Debugger, & Swift Playgrounds Editor in Objective-C.
- Drastically improved & expanded Python-based Xcode testing libraries used by over 15 QA engineers.
- Designed test plans & executed manual & automated tests for Xcode Debugger, lldb, & other components.

Teaching Assistant *May 2010 - May 2013*
University of Pennsylvania Philadelphia, PA
- Assistant to graduate & undergraduate level Computer Architecture course: Graded assignments, held office hours, taught lab section, wrote lab assignments & sample code.
- Mathematical Foundations of Computer Science: Graded papers & held office hours.

Low-Level Tools Intern *Jun - Aug 2012*
Apple Inc. Cupertino, CA
- Benchmarked & improved performance of memory management in the Objective-C runtime by up to 80%.
- Analyzed & refactored global data structures within the Objective-C runtime to improve performance.
- Expanded documentation of the Objective-C runtime library.

Co-Founder, Technical Lead *May 2011 - May 2012*
Stunable.com LLC New York, NY
- Designed the Stunable web platform, & its predictive modeling of shopping preferences, habits, & trends.
- Prepared comprehensive specifications of front & back-end systems of the Stunable web application.

- Developed prototype website in Django and populated it using a custom clothing web crawler.
- Hired employees for work on company website, logo design, & back-end development.
- Negotiated partnerships with New York web development firm and other investors.

System Administrator *Sep 2010 - May 2011*
Distributed Systems Lab, UPenn Philadelphia, PA
- Managed over 20 Linux servers and three subnets including regular OS maintenance and service requests.

Software Programmer *Jun - Aug 2010*
Linguistic Data Consortium Philadelphia, PA
- Wrote Perl, Python, and Bash scripts to automate various processing tasks.
- Developed & consolidated two Chinese & Arabic word alignment applications into one using Python & PyQt.

Chemical Engineering Intern *May - Aug 2008*
Bahrain Petroleum Company (BAPCO) Bahrain
- Managed a team of five in successfully identifying Carbon Credit investment opportunities within the refinery.
- Devised a four-phase business plan in partnership with BNP Paribas with a 7 year ROI and revenue of $52M/yr in Credit payments.
- Presented weekly status to CEO & board. Presented the business plan to government officials & over 350 members of management.

PROJECTS & ACTIVITES

President, San Francisco Go Club *sfgoclub.com* *Oct 2013 - Present*
- Organize & lead club board meetings & events, such as classroom sessions & courses.
- Manage club employees, finances, equipment, location, marketing, website, & social outreach.

Hearthbot *Personal Project, 2014*
- A Hearthstone playing robot that reads game logs to determine current plays by opponent, and UI automation to control the mouse and play the game via UI interaction.
- Employs simple statistical models of game situations for determining playing strategy, & a behavior fuzzing mechanism for avoiding bot detection.
- Never used in an unlawful manner, just for fun.

'Pokedex' Search Engine *'Internet & Web Systems' Final Project, 2013*
- In a team of five, developed a scalable, distributed, multi-node peer-to-peer web crawler & indexer with page ranking, implementing designs from the Mercator crawler.
- Developed a search engine web UI with user login, 3rd party search API integrations, & search result voting, which influenced the result's page rank. Implemented in Java with FreePastry, Hadoop, & AWS EC2.

President, Emacs Club *emacsclub.com* *2011-2013*
- Founded and led a 'hacker' social club focused on Unix and Emacs workflows, helping students at weekly meetings.
- Managed website, club roles, club meetings, department-wide lectures for introductory CS courses, and monthly technology sharing sessions. Led many lectures and group sessions.

Art of Recursion *Final Project, 2013*
- iOS app that allows users to discover recursive shape drawing with their fingers; touching with a different number of fingers draws a different shape, double-tapping changes colors.
- Animated with CoreGraphics, CoreAnimation, Quartz2D, and supports multi-touch controls.

DJFeed *PennApps 2011*
- Android app that allows you to influence the party's music by voting on and rating currently playing songs.
- Created a mobile client app to communicate with the music source and allow users to vote for upcoming tracks.
- Created a desktop server app to synchronize clients at a venue with the music source and view crowd's votes.
- Won "Greatest Potential" award for showing the greatest business potential out of 30 total teams & accepted into DreamIt Ventures Philadelphia 2011.

OAT Compiler *'Compilers' Final Project, 2011*
- Implemented a compiler of a custom object oriented type-safe language 'OAT' to x86 assembly in OCaml, & wrote an ncurses terminal game in 'OAT' to demonstrate its features.