

671 24th Ave  
San Francisco, CA 94121

(805) 448-4945  
<http://www.club.cc.cmu.edu/~ajo>  
<http://github.com/Quuxplusone>

## Summary

Professional software engineer with 7+ years of work experience in C and C++. Simultaneously attentive to both implementation details and code clarity; significant experience in compiler implementation.

## Work Experience

- |  |         |                    |
|--|---------|--------------------|
| Software engineer, <b>Push Computing</b>                                       | C++     | Apr 2012—          |
| · Startup jack-of-all-trades: from ZeroMQ to Cocoa                             |         |                    |
| · Used Objective-C 2.0 and C++11 in a production environment                   |         |                    |
| · Wrote and released the N-way diff utility <i>difdef</i> under an MIT license |         |                    |
| Designer, <b>Colossal Cave: The Board Game</b>                                 | English | Nov 2010–July 2012 |
| · Published with funding from Kickstarter.com                                  |         |                    |
| Contractor, <b>ReadThrough.com</b>   | PHP     | Sep 2011—Apr 2012  |
| · Web backend to parse screenplays in several industry formats                 |         |                    |
| Systems software engineer, compiler team, <b>Green Hills Software</b>          | C++     | Aug 2006–Mar 2011  |
| · Toolchain: Added end-to-end support for Unicode                              |         |                    |
| · x86 Assembler: Extended to handle 64-bit instructions                        |         |                    |
| · Front-end: Added 40 new diagnostics for error-prone constructs in C and C++  |         |                    |
| · Linker: Maintained Green Hills' optimizing ELF linker and reverse inliner    |         |                    |
| · Testing: Automatic generation and reduction of test cases                    |         |                    |
| Intern, <b>Microsoft Visual Studio Tools division</b>                          | C#      | summer 2005        |
| · Implemented a syntax-highlighting editor using VSIP                          |         |                    |
| Intern, <b>Spatial Integrated Systems</b>                                      | Matlab  | summers 2003, 2004 |
| · Drivers, camera characterization, and feature detection                      |         |                    |
| Junior member, <b>Robocup</b> (CMU's AIBO soccer team)                         | C++     | 2002–2003          |
| · Developed skateboarding routines for canine robots                           |         |                    |

## Education

- |  |          |
|--|----------|
| <b>Carnegie Mellon University</b> : University Honors, <b>Phi Beta Kappa</b>       | May 2006 |
| · Dual B.S. in <b>mathematical science</b> and <b>computer science</b>             |          |
| · Relevant coursework in operating systems (15-410), compilers, and algorithms     |          |
| <b>Richard Montgomery H.S.</b> , Rockville, Md.: National Merit Finalist           | May 2002 |
| · International Baccalaureate diploma  |          |
| · Sixth Subject project in computer science: a small programming language compiler |          |

## Other Skills

Expert knowledge of **C and C++**, plus x86-64 **assembly language**. Familiarity with PowerPC, ARM, and MIPS assembly languages, and numerous other programming languages, including Objective-C, Python, Perl, ML, METAFONT, Inform, and Befunge

Expert knowledge of the Green Hills toolchain and debugger and the MISRA automotive coding standards

Conversant in Spanish. Minimal knowledge of Chinese

Avid Euro gamer. Expert **juggler** and club passer. Boy Scout (Life); Order of the Arrow