

Andy Matuschak.

MSC 541
California Institute of Technology
Pasadena, CA; 91126
(314) 803-5255

<http://www.andymatuschak.org>
andy@andymatuschak.org

(Some) Relevant Coursework

systems: analytical concurrency, implementations of kernels and virtual machines, global snapshots, memory management, file systems, scheduling, security; **learning:** function approximation, neural networks, pattern recognition, active learning, support vector machines; **graphics:** rasterization, GPU programming, shading models, scientific visualization; **neural computation:** signal detection, associative memory, stochastic computation, error detection; **testing:** automated debugging, static analysis, runtime monitoring, fuzz testing; **algorithm studies:** correctness proofs, approximation algorithms, time analysis, optimization problems; **decidability:** tractability, complexity classes, problem reduction, automata; **math:** multi-variable calculus, differential equations, linear algebra, statistics, discrete math, propositional logic; **physics:** classical mechanics, electromagnetism, special relativity, quantum mechanics, waves, statistical thermodynamics; **others:** relational databases, principles of lab science, basic solid-state electronics and photolithography, unconscious processing, basic biophysics, basic game theory...

I write innovative and intuitive software that anybody can use to **make things**.

Work Experience

Software Engineering Intern @ Panic, Inc. (2009)

- ❖ Headed up research and development on a major new product for Panic (details under NDA).
- ❖ Teamed up with Panic's designers to begin defining the product's experience and features.
- ❖ Built layers of interactivity on top of WebKit, working directly with the nightlies' source code.
- ❖ Contributed feedback and changes to the in-progress W3C CSS3 specifications.

Software Engineering Intern @ Apple, Inc. (2008–2009)

- ❖ Worked with the Install and Setup team on the Installer, Software Update, and others.
- ❖ Designed and implemented exciting new technology for the Installer that will be employed throughout Mac OS X—details under NDA, but I *can* disclose that it's awesome.
- ❖ My project had cross-functional clients, so I worked with nearly a dozen different teams.

Mr. Ramesh P. Dave Summer Undergraduate Research Fellow @ Caltech (2007)

- ❖ Researched sense and response design with Professor K. Mani Chandy's Infospheres group:
- ❖ Developed prototype of "ShareWear"—a shopping application for Facebook—with Ruby on Rails.
- ❖ ShareWear learns users' tastes from their shopping behavior and displays only interesting items, narrowing Amazon's catalog of millions of items to a viewable number.
- ❖ This project leverages Facebook's user-base to encourage social shopping: product sharing, discussions, and viral spread of trends; users are connected to new people.

Independent Open Source Software Engineer (2005–present)

- ❖ Developed the [Sparkle Update Framework](#), allowing developers to easily add self-updating to Cocoa applications. It is used in [400+ products](#), totaling a six-digit user base.
- ❖ Created a toolkit developers can use to easily create help books for Mac OS X.
- ❖ Wrote and published various code snippets, modules, and controls
- ❖ Wrote a number of tutorials on Cocoa topics and published them in [blog form](#).

Founder / Software Engineer @ Open Sword Group (2003–2006)

- ❖ Co-authored [Pixen](#), the first large-scale Cocoa graphics editor for OS X.
- ❖ Pixen has received high acclaim (4.8/5 on MacUpdate and 4.75/5 on VersionTracker) and has been downloaded 150,000+ times.
- ❖ Created the [Open Sword Group's web site](#) and provided technical support to users.

Technology Experience

Software Programming: Objective-C + Cocoa, C / C++, Ruby, Haskell, Java, Smalltalk, x86 ASM

Web Programming: Ruby on Rails, Sinatra, PHP, (X)HTML, CSS, Javascript

Education

California Institute of Technology; Pasadena, CA

B.S. in Computer Science; Anticipated Date of Graduation: 2010

Hobbies

Tenor and musical director for [an award-winning a cappella group](#), piano, gourmet cooking, design