

Aaron Golden

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Work Experience

Chief Scientist

6/2006 - Present [Perfectly Scientific, Inc.](#), Portland, OR

- At Perfectly Scientific, Inc. (PSI) I have directed the development of software for clients in several different fields including sparse matrix methods (BLAS), computational geometry, simulation of chaotic systems, data compression, high precision floating point methods, and ultra-wide-band USB data transfer protocols (featured at the 2007 Consumer Electronics Show in Las Vegas). My team and I have developed software in C, C++, and Objective-C. I work primarily in UNIX-like environments including Mac OS X and various forms of Linux, but I have also developed software for Windows systems when that was required for a project. In addition to software development for client companies I have assumed responsibility for maintaining the 8051 driver code and cross platform APIs for PSI's bTop-2 data-acquisition and control device. I developed a Mathematica add-on package that provides a communication layer between our bTop-2 drivers and a Mathematica kernel and presented that work at the 2007 Wolfram Technology Conference in Champaign, Illinois. My responsibilities include the management of research interns, writing and updating contracts, providing technical support, maintaining communication with client engineers and QA personnel, and attending and giving presentations at meetings. I have coauthored white papers with Professor Richard Crandall (the founder of PSI) and have assisted Prof. Crandall with his academic research projects. In addition to my position at PSI, I am working with Prof. Crandall on a project funded by a grant from the NIH, researching the use of mathematical algorithms to detect Medicare fraud.

Software Development Intern

5/2005 - 6/2006 Apple Computer, Vancouver, WA

- I worked on the iLife team at Apple Computer full time during the summer between my junior and senior years at Reed College and part time during my senior year. I was responsible for developing features and fixing bugs in Apple's iLife software suite, and worked primarily on the initial release of the iWeb program. This job allowed me to gain valuable experience working with a large development team on a widely distributed consumer product, with formal feature specifications and rigorous development deadlines.

Mathematics Tutor and Grader

8/2004 - 5/2005 Reed College, Portland, OR

- During the first semester of my junior year at Reed I worked as a grader for the Mathematics Department, marking homework assignments and providing comments for first and second year mathematics students. The assignments that I graded consisted mostly of proofs from first and second year calculus and real analysis courses.
- During the second semester I worked at a drop-in mathematics tutoring center where first and second (and very occasionally third) year students would come for help understanding homework problems, proofs, and concepts from their classes.

Laboratory Assistant

6/2004 - 8/2004 Neah Power Systems, Bothell, WA

- During the summer between my sophomore and junior years at Reed I worked as a laboratory assistant for Neah Power Systems, a startup company developing direct-methanol micro fuel cells. I set up, ran, and recorded results from catalyst electroplating experiments related to the development of the fuel cells, under the direction of a senior researcher.

Physics Grader and C Programming Tutor

8/2003 - 5/2004 Reed College, Portland, OR

- During the first semester of my sophomore year I worked as a grader for the Physics Department. I marked and provided comments on papers for an introductory physics class that covered Newtonian mechanics and basic optics.
- During the second semester I worked as a tutor, helping a senior year physics student to learn the C programming language in order to develop a simulation for part of his thesis work.

Elementary Mathematics Tutor

9/2002 - 1/2003 Self Employed, Portland, OR

- During my freshman year at Reed I worked as a freelance mathematics tutor, and I was hired by the mother of a boy struggling with his math homework in the fourth grade, to help her son understand and work through homework assignments.

Programmer

5/2001 - 8/2002 Rosetta Inpharmatics, Seattle, WA

- During the summer between my junior and senior years of high school, and during my senior year of high school I worked as a programmer at Rosetta Inpharmatics, first under Guy Cavet and later under Dr. David Haynor. I wrote Perl scripts and other programs to help Mr. Cavet and Dr. Haynor with their gene sequencing research.

Programmer

5/2000 - 8/2000 Lucent Medical Systems, Kirkland, WA

- During the summer before my junior year of high school I worked as a programmer at Lucent Medical Systems. I used Visual Basic to develop a training tool for nurses, which simulated the user interface of a new medical device.

Web Developer

5/1999 - 8/1999 I5-Digital, Seattle, WA

- During the summer between my freshman and sophomore years of high school I worked as a web developer for I5-Digital. My job consisted of taking artistic page layouts developed by a design team and reproducing those designs as web pages using HTML code.

Education

8/2002 - 5/2006 Reed College, Portland, Oregon

- Bachelor of Arts in Mathematics
- I wrote my thesis under Professor Jerry Shurman, on the classification of genus-1 tori into conformal equivalence classes using a computational method called "circle packing."

<http://people.reed.edu/~goldena/Thesis.pdf>

Skills

| Description | Years of experience |
|-----------------------------------|---------------------|
| ▪ C and C++ development | 10 |
| ▪ Document preparation with LaTeX | 2 |
| ▪ GUI development on Mac OS 10 | 7 |
| ▪ Linux system administration | 3 |
| ▪ Objective C programming | 7 |
| ▪ OpenGL development | 7 |
| ▪ Programming with Mathematica | 4 |
| ▪ Version control with Subversion | 3 |

References

| Reference Name | Phone | Email |
|---------------------------|--------------|--|
| ▪ Dr. Richard E. Crandall | 503-777-7255 | crandall@reed.edu |
| ▪ Christopher Rudolph | not-public | rudy@apple.com |
| ▪ Guy Cavet | 206-802-6340 | guy_cavet@merck.com |