

My name is Thom Dixon.

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PROFILE

I am a software developer with a passion for free and open source software, and a deep interest in computer security and cryptography (the majority of my open source contributions are to projects within this area). Some of my other pursuits outside of coding include playing electric guitar and practicing Brazilian jiu-jitsu.

EDUCATION

University of Florida

M.S. Computer Engineering, Fall 2013 — Fall 2015 (expected)

B.S. Mathematics with a minor in Computer Science, Spring 2011 — Spring 2013

- ▶ Graduated with a final overall GPA of 3.91.

Grooveshark University

Participant, Spring 2013

- ▶ Participated in a ten week long professional training course (taught by Prof. Dave Small of the University of Florida) on the fundamentals of mobile application development using the Android Jelly Bean operating system.

Brevard Community College

A.A. General Education, Summer 2011 — Fall 2010

- ▶ Final overall GPA of 3.93.

INDUSTRY & RESEARCH EXPERIENCE

Ultimate Software

Software Engineer, May 2013 — Present

- ▶ As a DevOps engineer on the Build and Deployment team, I develop the internal tools and systems used for Ultimate's build automation and SaaS delivery.

Advanced Computing and Information Systems Laboratory

Undergraduate Research Assistant, Fall 2012 — Spring 2013

- ▶ Accepted a Research Experience for Undergraduates position under Prof. Renato Figueiredo and Ph. D. candidate Pierre St. Juste working on distributed virtual private networks (i.e., IPOP [IP Over P2P], GroupVPN and SocialVPN). In particular, I assisted in the implementation of simple inter-cloud communication for the Contrail cloud platform via the utilization of a P2P overlay in the form of IPOP, and worked to secure the communication between nodes through the use of IPsec.
- ▶ The culmination of our efforts was Acheron.

Ultimate Software

Software Engineer Intern (TechSTAR), Summer 2012

- ▶ Worked on a myriad of projects as a member of the Architecture Refactoring Team, who are tasked with maintaining and improving both the underlying architecture and various other components of UltiPro, Ultimate Software's flagship enterprise Human Capital Management solution.
- ▶ Utilized various languages and tools, including C#, ASP.NET, JavaScript, jQuery, Knockout, HTML 5 and CSS 3.

OPEN SOURCE EXPERIENCE

Please see my GitHub for a more complete listing of open source projects and contributions. I have provided a list of selected projects below.

SymPy Symbolic Computation Library

Open Source Contributor, November 2010

- Contributed a pull request to fix a number of the problems in Issue 2085, where several limits (particularly left- and right-sided limits) were not being calculated correctly. Also fixed a `ZeroDivisionError` when `cos(x)` was called with an infinite argument.

dcrypt Cryptography Library

Project Founder, August 2008 — March 2010

- Founded and maintained an open source initiative to provide a standard cryptographic toolkit (focusing on symmetric primitives) written entirely in the D programming language. As of March 2010, a majority of dcrypt was merged into the Tango standard library.

Bouncy Castle Java Cryptography Extension

Open Source Contributor, 2006 — 2008

- Provided the initial implementations of the TEA, XTEA, Salsa20, ISSAC and direct-key NOEKEON ciphers, as well as further enhancements to XTEA (the memoization of round keys to speed up encryption and decryption).

SEMINARS & TALKS

Shamir Knows Alice and Bob's Shared Secret, Spring 2013

- Benjamin Franklin once wrote, "Three may keep a secret, if two of them be dead." Fortunately, advances in modern cryptography prevent us from having to croak the majority of our acquaintances. In this talk, we discussed methods of secret sharing (splitting), introduced in 1979 by Shamir and Blakely, which entail the distribution of a secret to a collection of constituents, of which only a sufficiently large subset may reconstruct the secret.

Programming for Aspiring Mathematicians, Fall 2011 — Spring 2012

- Gave a two-semester seminar on the fundamentals of computer programming to Pi Mu Epsilon, the University of Florida's official mathematics club. Utilizing the Python programming language, my goal was to provide a glimpse into the world of general purpose programming, leading up to the *pièce de résistance* of introducing the elements of the Sage mathematical system.

SPECIALTIES

Concentration: My open source experience has given me a preference towards full-stack development.

Languages: I am most familiar with C, Python, and JavaScript (CoffeeScript, too).

SCM: Extensive experience with Subversion (svn) and Git (with a preference towards Git).

Tools: Very familiar with the GNU Compiler Collection and emacs text editor (though I've recently switched to Sublime Text).

Operating Systems: Linux (e.g., Gentoo, Debian, Fedora). Personally, I use Debian Sid with Gnome 3.

MEMBERSHIPS

I am associate member #9927 of the Free Software Foundation and a contributing member of Software in the Public Interest.