

Michael Francis Shick



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Summary

Backend specialist software engineer with diverse array of experience from professional and personal work.

Employment

Google Software Engineer. 2014-present.

- Designed and implemented mechanisms in C++ that modify virtually every HTTP request entering and leaving Google.
- Created C++ MapReduce pipelines to process terabytes of log data and make it useful to other Googlers.
- Analyzed and debugged traffic patterns using SQL.

Naval Postgraduate School Research Associate. 2012-2014.

- Developed multiplatform digital forensics tools in C++ for analysis of bulk disk and network data.
- Administrated a Linux research network and curated an associated 70 terabyte data corpus.
- Scripted extensively in Python and Bash to aid in system administration.

Freelance software developer 2011-2014.

- Built projects using Java, Ruby, Android, and Bitcoin.

National Institute of Standards and Technology Security and Usability Intern. 2011.

- Created web tool in Django to collect data about the password policies of various commercial organizations for later study.

GWU Robotics & Mechatronics Lab Software Engineering Intern. 2010.

- Wrote C systems code to drive sensor package on autonomous mobile robot.
- Engineered system to capture 3D range data with 2D sensors.
- Published results to IEEE ROSE 2010 (abstract 1569337657).

Personal Projects

Source code for many of my projects is available under the GPL at fossil.shick.xyz

Build-a-Coin build-a-co.in

- Designed and implemented website in Go that instantly creates new Bitcoin-derived cryptocurrencies based on user parameters.
- Hosted site on home server with over a thousand cryptocurrencies produced weekly.

DASH Bus Schedule

- Wrote Android schedule for local bus system of Alexandria, VA, where previously only a paper version was available.

Lock Pattern Generator

- Wrote Android utility to aid in the selection of securely random lock screen patterns.
- Published to Google Play with over six million downloads and growing.

Multitouch Biometric Authentication

- Designed process to authenticate a user by hand geometry using only a multitouch sensor such as a smartphone display.
- Implemented proof-of-concept for Android.

Education

B.S. Computer Science The George Washington University, 2012.

Volunteer Work

European Union Science Olympiad 2012.

- Built system to track Olympiad participants using Android tablets and QR codes on badges.

Honors and Awards

Full academic scholarship: National Science Foundation Scholarship for Service (SFS). 2010-2012.

Eagle Scout with Silver Palm. 2007.

Keyword Spam

Languages: Awk, Bash, C++, C, Go, Haskell, Java, Javascript, LaTeX, Python, Ruby, SQL

Tools: CHMOD, gdb, git, subversion, tmux, valgrind, vi