

Aaron Simmons

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EMPLOYMENT

Sensory **Application Software Engineer** **2013 – Present**

Boulder, CO

- Worked on TrulySecure (tinyurl.com/jyakp55), a multi-modal biometrics SDK that combines face and voice recognition into one system. Productized research algorithms into cross-platform, performant, and easy-to-use APIs.
- Designed APIs in C++, with high-level APIs generated with SWIG for Java (Android, Win/Mac/Linux), Objective-C (iOS, Mac), Python (Win/Mac/Linux), C# (Win/Mac/Linux)
- Ported to many platforms/compilers including Android NDK, iOS, Mac, Windows, tizen, AOSP, and many flavors of Linux
- Built out CI system using GitLab, Docker images, and Windows VMs
- Wrote platform sales demos for Android (Java, gradle), iOS (Objective-C), and Win/Mac/Linux desktop (C++, Qt)
- Designed high-level Android API to save clients the work of wiring camera/microphone and running enrollment/authentication GUIs
- Used AWS Cognito and S3 for logging
- Worked on free Android “AppLock” demo, now with 100k+ installs (tinyurl.com/goz8hnb)
- Designed and deployed audio/video data collectors onto Amazon Mechanical Turk using both desktop web and a custom Android app.

Rosetta Stone **Director of Speech SDK** **2013**

Boulder, CO

- Led a team to expand our C++ Speech SDK to a myriad of languages/platforms, with a consistent and easy-to-use high-level API generated with SWIG and Ruby scripts. Languages/platforms include: Java (Android, Desktop), Objective-C (iOS), C# (Unity, Desktop), JavaScript (FlasCC, emscripten, PhoneGap), ActionScript (FlasCC, ANE), Ruby (Desktop), Python (Desktop).

Rosetta Stone **Software Developer** **2008 – 2013**

Boulder, CO

- Moved company away from an installed Speech Engine in favor of a no-install, in-Flash deployment using the Alchemy cross-compiler (later FlasCC/Crossbridge). Enterprise customers loved this, as they no longer had to perform system-wide Speech Engine upgrades. Won an internal company “Stella” award for my efforts.
- Wrote high-level ActionScript Speech API that gave agnostic access to various Speech Engine deployments including Alchemy, Air Native Extension (ANE), server-based (RTMP), and the legacy installed version.
- Conceptualized and implemented “web reading-tracker” prototype, a tool to turn any text-and-audio webpage into a language-learning lesson. Led to the patent application, “*A Method and System for Reading Fluency Training*”.
- Implemented server-based Speech Engine prototype using RTMP and Red5.
- Greatly reduced speech bugs (especially regressions) by implementing software best-practices, such as continuous integration, unit-testing with valgrind, etc. (Jenkins, CMake, Ant, UnitTest++, valgrind)

Peace Corps

ICT Volunteer

2006 – 2008

Busuanga, Palawan, Philippines

- Created SMS hotline for reproductive health facts (freewebs.com/sexedtext) with open-source software (LAMP, Ubuntu, PlaySMS, Kannel). Adapted software using PHP, JavaScript, HTML, CSS, and MySQL. Developed deb package installer for Ubuntu.
- Taught IT and Math at two high schools; facilitated ICT teacher trainings throughout the country.

Texas Instruments

Software Design Engineer

2000 – 2006

Dallas, TX

- Developed TI-SmartView 1.0-2.0 (tinyurl.com/tw2c254), a cross-platform calculator emulator for Windows and Mac OS X, using C++ (MSVC, STL, Boost), Java (Eclipse, Swing, JUnit), and Objective-C (XCode, Cocoa).
- Developed multi-threaded middleware component of TI-Navigator 1.0 wireless classroom system (tinyurl.com/sw5bw55) using C++ (MSVC, MFC, XML, STL and COM+).

EDUCATION

University of Texas, Dallas

M.S., Computer Science

2003 – 2005

Dallas, TX

- Notable Coursework: AI, NLP, Computer Vision, Finite Automata
- GPA 3.9

Louisiana State University

B.S., Computer Science
B.S., Mathematics

1995 – 2000

Baton Rouge, LA

- Notable Coursework: Neural Nets & Fuzzy Logic, Graph Theory, Combinatorics, Abstract Algebra
- GPA 3.828

TECHNICAL EXPERIENCE

- Proficient in: C++, C, Java, SWIG, cross-compilation (IoT, AOSP, emscripten, FlasCC), dev tools (git, CMake, Gradle)
- Working Knowledge: JavaScript, Python, ActionScript, Ruby, C#, Objective-C, Docker, Amazon Web Services, Amazon Mechanical Turk
- StackOverflow reputation of ~5700 (top 7%) (stackoverflow.com/users/89218)

OPEN SOURCE PROJECTS

- symzip-plugin (github.com/paleozogt/symzip-plugin)
 - Gradle plugin for making zips that can include symlinks (oddly something that Gradle can't do!)
- republish-plugin (github.com/paleozogt/republish-plugin)
 - Gradle plugin for publishing artifacts from one repo to another
- MSVCDocker (github.com/paleozogt/MSVCDocker)
 - Build MSVC binaries on a Linux host using Docker and Wine
- SWIG Objective-C fork (github.com/paleozogt/swig/tree/objective-c)
 - Rebased old GSoC branch and fixed bugs, added features
- Clang Reflect (github.com/paleozogt/clang_reflect)
 - Tool to generate C++ reflection code using libclang.