

# JEFF CHEN

## EDUCATION

- 2012-2016 **Carnegie Mellon University Class of 2016** - B.S. Computer Science
- Expected minors in Human-Computer Interaction and Robotics
  - Relevant coursework - Introduction to Computer Systems, Parallel and Sequential Data Structures and Algorithms, Great Theoretical Ideas in Computer Science, Science of the Web, Human-Robot Interaction, Cognitive Robotics, Humanoids

## EXPERIENCE

- Summer 2013 **Stokes Scholar**, *National Security Agency*
- Held TS//SI clearance since 2012
  - Wrote tool to detect and neutralize Windows malware using infection markers
    - Enabled lightweight, fast, and accurate detection of known malware
    - Neutralized malware by taking control of known infection markers
    - Applied heuristic analysis to potential infection markers with success rate comparable to commercial antivirus software
  - Created tool that displays a two-dimensional overview of network activity for intuitive analysis
- 2010-2012 **Software Lead**, *AUVSI RoboSub*
- Wrote and maintained software for an autonomous submarine
    - Implemented computer vision algorithms, including image segmentation, blob detection, and line detection
    - Wrote PID controller and Kalman filter for accurate motion through potentially turbulent water
    - Managed large codebase and over ten developers with Git
  - Taught novice programmers object-oriented programming and C++

## PROJECTS AND AWARDS

- February 2014 Created **MiniPlay**, a Chrome extension to operate Google Play Music and add features like global shortcuts and Last.fm scrobbling. Has over 100 daily users.
- January 2014 Built a **threadpool** in modern C++11 to fill the gap in the C++ standard library between `std::async` and `std::thread`.
- April 2013 Wrote **Skein**, a high-performance Skein-1024 brute forcer for the xkcd Alma Mater challenge that out-performed the vast majority of schools including Cornell, and coming only twenty bits short from the winner, a group of CMU students using a supercomputer.
- December 2012 Wrote a virtual machine in C, designed to interpret and execute bytecode in C0 as a final project for 15-122.
- September 2012 At the Fall 2012 PennApps hackathon, developed **Chroma**, an Android application designed to help colorblind people distinguish between the entire color spectrum
- October 2011 Finalist for the **CSAW High School Cyber Forensics Challenge**

## SKILLS

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|-----------|---|
| Languages | C++, C, Java, Javascript, Python, SML, x86 assembly |
| Web       | CSS, HTML, Node.js                                  |
| APIs      | WinAPI, NTAPI, OpenCV, POSIX                        |
| Other     | Bash, Git, Markdown, LaTeX, CMD, GDB                |