Jeff Chen

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Education

Carnegie Mellon Class of 2016 — *B.S. Computer Science* — 3.4/4.0

- Minor in Human-Computer Interaction
- Relevant coursework: Algorithm Design and Analysis, Cloud Computing, Cognitive Robotics, Complexity Theory, Human-Robot Interaction, Interaction Design Overview, Science of the Web

Experience

National Security Agency — *Stokes Scholar*

Holder of TS//SCI clearance with special background investigation and polygraph

Summer 2015 — **Trusted Systems**

- Designed and implemented a software keyboard for Android devices that operates in the TrustZone secure environment
- Ported IMA (Integrity Measurement Architecture) to Android
  - Partially implemented the Trusted Platform Module (TPM) standard in the TrustZone secure environment
  - Developed a kernel driver to interface with the software TPM
  - Created a TrustZone secure application to sign and certify the IMA measurement list
  - Created a system service enabling Android remote attestation

Summer 2014 — **Data Network Technologies**

- Designed and developed CNE operations tool for collection of computer-to-computer communications
- Designed and implemented secure communications protocol

Summer 2013 — **Remote & Deployed Operations**

- Developed Windows anti-malware software
  - Used infection markers to enable lightweight, fast, and accurate detection and neutralization of known malware
  - Heuristically analyzed and tagged potential infection markers
- Created an intuitive network traffic visualizer, allowing analysts to more easily notice anomalous behavior

Projects

Aug 2015 — Developed an **x86/x64 disassembler library** in Rust.

April 2015 — Created **espresso**, a deep learning framework designed to produce maintainable yet highly performant code compatible with Caffe.

July 2014 — Wrote **Ties**, an Android application that helps people stay in touch.

April 2014 — Implemented **computer stereo vision** using semi-global block matching.

Feb 2014 — Created **MiniPlay**, a Chrome extension for web music players with over 1000 daily users.

Aug 2013 — Built a **dynamic threadpool** in modern C++11 to fill the gap in the C++ STL between `std::async` and `std::thread`.

April 2013 — Wrote a high-performance Skein-1024 (SHA-3 candidate) **hash cracker** for the xkcd Alma Mater challenge.

Sept 2012 — Developed **Chroma**, an Android application designed to help colorblind people distinguish between the entire color spectrum.

2010-2012 — Led development of **eva**, software for an autonomous submarine, incorporating computer vision, state machines, and control systems.

Languages

C++14
C
Java
Javascript
Python
x86
Rust

Technologies

Cryptosystem design
*nix kernel development
OpenMP/Open MPI
SIMD
CUDA/OpenCL
OpenCV
Embedded systems

Internet

HTML
SASS/CSS
Angular.js
Node.js
Socket.IO
jQuery
MongoDB