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, Computer and Network Security, Human-Robot Interaction, Information Security and Privacy

Experience

National Security Agency — *Stokes Scholar*

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

Summer 2013

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

Summer 2014

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

Summer 2015

- 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
  - Designed and developed a Linux kernel driver to interface with the TPM implementation
  - Created TrustZone secure application to sign and certify the IMA measurement list
  - Implemented a system service enabling Android remote attestation

Projects

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 in OpenCV using semi-global block matching.

Feb 2014 Created MiniPlay, a Chrome extension adding features to Google Play Music with over 400 daily users.

Aug 2013 Built a high-performance 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 brute forcer to crack a Skein-1024 hash for the xkcd Alma Mater challenge, out-performing the efforts of entire universities, including Cornell and LSU.

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

2010-2012 Designed, wrote, and maintained software for an autonomous submarine.

Languages

C/C++14
Java
Javascript
Python
x86
Rust

Systems

Cryptosystem design
*nix kernel development
Windows development
CUDA/OpenCL

Web

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

Other Skills

Android
Markdown
LaTeX
Git
OpenCV