Jeff Chen

jeffrey@cmu.edu ✉
Dublin, CA 📍
(925) 699 5663 📱
jeff.yt ☁

🎓 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

August 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