

# Matthew Chu

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## Education

**Carnegie Mellon University**, Pittsburgh, PA

Master of Science in Electrical and Computer Engineering

Expected December 2018

**Carnegie Mellon University**, Pittsburgh, PA

Bachelor of Science in Electrical and Computer Engineering

Expected May 2018

GPA: 3.01/4

### Relevant coursework:

- Operating System Design and Implementation
- Embedded Systems Design
- Machine Learning
- Computer Systems
- Computer & Network Security & Applied Cryptography
- Principles of Imperative Computation
- Computational Photography

## Work Experience

**VencoreLabs**, Basking Ridge, NJ

May-August 2017

Intern

- Implemented detection of compromised systems by analyzing classified unintended RF emissions from various electronic devices through a Hidden Markov Model.
- Improved detection of abnormal behavior in electronic devices from 72% to 88%

**Raytheon Integrated Defense Systems**, Andover, MA

May-August 2016

Layout and Software Support Intern

- Developed software to convert between two significantly different design formats so that a single design could be easily ported between two different CAD tools (Cadence Virtuoso and ADS Keysight)
- Wrote SKILL utilities to increase design productivity with Cadence Virtuoso

## Projects

**Pebbles OS Kernel**

May 2017

- Designed and implemented a Unix-like kernel
- Implemented multiple virtual memory address spaces via paging, preemptive multitasking, and a small set of system calls
- Supplied device drivers for the keyboard, console, and the timer

**COVM**

December 2015

- Implemented a Virtual Machine for C0, a type-safe subset of C.
- Created test cases in C0 and byte code to test the validity of the VM.
- Learned how to perform low-level data and memory manipulation safely and efficiently.

**Collisions**

December 2014

- Created a multi-level strategy game using Python and the pygame module set.
- Implemented collision detection, an efficient graphics display, and a basic enemy AI.
- Learned basic principles of GUI's and object oriented programming

## Skills

**Computer Languages:** Python, C, Unix Shell, Java, x86 Assembly

**Computer Tools:** MS suite, Quartus II, DVE, Matlab, Eclipse, Ubuntu, Windows