Alexander D. **Gotsis**

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Education

Carnegie Mellon University	*Pittsburgh, Pennsylvania*
B.S. in Electrical and Computer Engineering	*Expected May 2019*

- Overall GPA 3.61/4.00 as of May 2018
- Carnegie Institute of Technology Dean's List Fall 2015, Spring 2017, and Spring 2018
- One additional semester left for M.S. in Electrical and Computer Engineering

Selected Coursework

Operating Systems Design & Implementation	Structure & Design of Digital Systems	Fund. of Electrical Power Systems	Calculus I/II/III
Embedded Systems Software Engineering	Intro to Computer Systems	Intro to Embedded Systems	Physics I/II

Experience

MITRE Corporation	*Bedford, Massachusetts*
Embedded Software Coop/Intern	*May 2018 - August 2018*

- Develop and test Python interfaces for Arbitrary Waveform/Function Generators to create a power/clock fault testing suite.
- Profile Dwenguino AVR instructions and develop suite for profiling other hardware implementations.
- Engineer methods to extract cryptographic information at a distance by means of electromagnetic emissions.
- Alter programmable logic fabric for secure video game console challenge.

Robotany	*Pittsburgh, Pennsylvania*
Electrical Engineering Power Systems Intern	*May 2017 - May 2018*

- Design 3-phase delta 240V electrical power system for robotic vertical farm, fixture wiring, and control racks.
- Specify and implement power system including conduits, transformers, and load centers. Manage and direct assembly teams.

Auditory Lab (Profs. Heller and Grover)	*Pittsburgh, Pennsylvania*
Electrical and Computer Engineering Research & Development Engineer	*May 2016 - May 2017*

- Engineer mobile application intended to assist in teaching echolocation skills to visually impaired persons on an interdisciplinary team with the Psychology and ECE departments under Professors Heller and Grover.
- Provide back-end design for and administrate data collection server.

Eberly Teaching Center	*Pittsburgh, Pennsylvania*
Eberly Teaching Center Developer	*Sept. 2016 - Dec. 2016*

- Design and implement programmatic online course tools with JavaScript and jQuery for the Open Learning Initiative.
- Light system administration work.

Skills

SystemVerilog	FPGAs	ARM	Python	Reverse Engineering	Power Systems	National Electrical Code	AutoCAD / SolidWorks
C	UNIX Systems	x86	Java	Lab Equipment	Git	Production Management	Rapid Prototyping

Projects & Extracurricular Activities

- **Embedded Capture the Flag** Participant (June 2018 - July 2018)
  Design a secure video game console with a team part time over 8 weeks. Defend it from other teams. Attack the designs of other teams.
- **Build 18 Hardware Hackathon** Builder (January 2017)
  During a week-long Hardware Hackathon, design and implement a protocol for driving a 96 x 64 RGB LED Matrix via an FPGA in SystemVerilog. Use this display to show programmatically derived 3D animations.
- **Activities Board Technical Committee** Core Member & Executive Board (2015 - Present)
  Entirely student driven, as a member of the Executive Board, lead, plan and implement event production services for campus events from small events to well known concert performers, implementing complex 3-phase power systems, and high grade audio and lighting rigs.
- **CMU Explorers Club** Member, Hiking Chair & Treasurer (2016)
  CMUX is an outdoors club dedicated to making outside more accessible, and encouraging others. Organize hikes as hiking chair.
- **Spring Carnival Committee** Head of Electrical (2016 - Present)
  Responsible for the power distribution and safety of all building organizations for Spring Carnival