

Charles J. Lovering

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OBJECTIVE: Internship involved in machine learning, front-end web development, or computer security

EDUCATION: Worcester Polytechnic Institute (WPI), Worcester, MA
Bachelor of Science in Computer Science, GPA **3.97/4.00** *Feb 2018*
Masters of Science in Computer Science, GPA **4.00/4.00** *May 2018*

PROFESSIONAL EXPERIENCE:

Software Engineering Intern, *Network Security*, Silicon Labs *May – July 2016*

- Built a fuzz-testing engine to test the security of the Thread protocol stack
- Developed an internal plugin to test cache-performance of a micro-chip

Software Engineering Intern, *DevOps*, Imagitas *June – Aug 2015*

- Developed, maintained, and enhanced build and deployment scripts using python, perl and git
- Enhanced automatic testing of source code by writing selenium tests using a robot framework

PROJECTS:

Interactive Qualifying Project, WPI *Aug 2016 – Present*

- Innovate time-warping algorithms and indexing for high-performance time series comparisons
- Build a web interface for viewing comparison and clustering results using python, js, React and D3

Tools and Techniques: Network Security, WPI *Aug 2016 – Present*

- Build a lightweight capability gatekeeper utilizing DNS servers and NAT mechanisms
- Utilize a packet-snooping tool, Wireshark, to monitor user searches

Introduction to Artificial Intelligence, WPI *Aug 2016 – Present*

- Implemented informed search-algorithms to solve arithmetic maze problems between arbitrary numbers

Local and Wide Area Networks, WPI *Jun – Jul 2016*

- Developed socket-level C chat client for multiple concurrent users
- Built interactive interface, and a secure and scalable server infrastructure

Programming Languages, WPI *Apr – May 2016*

- Built a type-inferencer using a unification algorithm with an occurs check using racket
- Created an object-oriented language with inheritance and a language with lists and exceptions

Software Engineering, WPI *Oct – Dec 2015*

- Led 9-person team, building backend for a mapping tool to find the way between locations at WPI
- Built a polished UI with interactive paths, resizing, a tutorial, and smooth transitions using JavaFX

Operating Systems, WPI *Aug – Oct 2015*

- Designed and developed a shell simulator capable of background task execution
- Injected system calls into Linux kernel to monitor user activity

Neuroscience Lab, WPI *June – Aug 2013*

- Collected data using PCR and analyzed data to diagnose a connection to a gene that humans share with Drosophila (fruit flies) to Alzheimer's disease

INDEPENDENT PROJECTS:

- Designed and built a platform for visual displays, using js, HTML5 canvas, React *Jul 2016*
- Utilized JavaScript, Html, CSS, Bootstrap, jQuery and Ractive.js to create a personal website *Feb 2016*
- Built an application that solves linear systems of equations using the Gauss Jordan Algorithm *Apr 2015*

ADDITIONAL EXPERIENCE:

Computer Science Teaching Assistant, WPI *Aug 2015 – Present*

- Led labs, held office hours, graded homework and created testing and packaging scripts

SKILLS:

Languages: Java, C, js, Python, Racket, SQL, C++

Tools: Git, Atom, EMACS, React, LaTeX, Rative.js, Virtual Box, Bamboo, IntelliJ, JavaFX, Word, Excel, GNUPlot, MySQL, jQuery, boost, D3