

Troy Ballinger

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EDUCATION

Binghamton University, Watson School of Engineering, SUNY

Sep 2016 - May 2020

B.S. Computer Science, *cum laude* 3.50 GPA

Relevant coursework: Automata Theory & Formal Languages, Software Project Management, Operating Systems I/II, Data Structure & Algorithms, Adv. Object-Oriented Programming, Adv. Computer Architecture, Design & Analysis of Algorithms

SKILLS

Languages: C / C++ (4yr), JavaScript (4yr), Java (3yr), Rust (1yr), PHP (1yr), x86, ARM Assembly

Skills: Node.js, MongoDB, MySQL, Docker, Gradle, Git, React, OAuth, CSS, HTML

Experience: Linux console, Google Cloud Storage, wasm, xv6, Joomla!, OmniUpdate

PROFESSIONAL EXPERIENCE

Iconoclasm.re, Los Angeles, CA

May 2019 - Present

Software Engineer

- One of two engineers that launched a collaborative malware analysis platform for reverse engineers
- Implemented a microservice architecture using Docker to create a resilient RESTful JSON API with Node.js and Java
- Integrated NSA's Ghidra with our platform to support in-browser, remote disassembly of malware using Google Cloud Services and Jython scripting
- Utilized MongoDB for user analytics tracking and Auth0 for authentication, built front-end in React, wrote over 10,000 lines of code across codebase
- Pitched product during DEFCON in August and received feedback from various cybersecurity companies
- Currently working remotely part-time and participate in weekly stand-ups to ensure the company meets its goals

Research Foundation of SUNY, Binghamton University

Apr 2017 - Sep 2017

Research Aide

- Researched SQL injection, XSS attacks, and mitigating risk of data breaches
- Independently designed a health form generator front and back-end using my research, to be implemented by the HR department for screening new lab hires
- Responsible for standardizing and approving all updates to the Binghamton University website across via OmniUpdate
- Completed side projects for researchers and maintained systems across Binghamton's Innovative Technology Complex

Evident Thermoelectrics, Albany, NY

Jun 2015 - Aug 2015

Web Development Intern

- Designed and launched a product suggestion tool on company website in JavaScript; secured a sales inquiry referencing tool's recommendation within 24 hours of going live; maintained website code via Joomla!
- Expanded market reach by improving website SEO, shortening load times by compressing images, and making accounts on YouTube, LinkedIn, and Google Maps linking to company website

PROJECTS

License Plate Detection System, Binghamton University

Sep 2019 - Dec 2019

Team Lead

- Designed a garage door using OpenALPR, a camera, and Raspberry Pi to automatically open for known vehicles
- Built an Node.js server running on Raspbian to control door servos, checked detected plates against Firebase database of cars entered in via an associated Android app; prompted app for approval when unrecognized cars arrived
- Decided the tech stack, coordinated meetings, gave four presentations, and was ranked 1st of 10 teams for our project

Adv. Object-Oriented Programming, Binghamton University

March 2019

- Implemented fully functional replica of `std::map` using a skip list and a thread-safe, exception-safe `std::shared_ptr`

ACTIVITIES & LEADERSHIP

Upsilon Pi Epsilon, Binghamton University

Feb 2019 - Present

Ethical, Social, & Global Issues in Computing, Binghamton University

Jan 2019 - May 2019

Teaching Assistant

- Presented on concise paragraphing with proper grammar in technical writing in a class of 24 students
- Graded and provided feedback on presentations and research papers weekly within computer science field

Tau Epsilon Phi Fraternity

Sep 2017 - May 2018

Social Chair