

# Troy Ballinger

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## EDUCATION

### Binghamton University, Watson School of Engineering, SUNY

Expected May 2020

B.S. Computer Science, 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 1<sup>st</sup> 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