Troy Ballinger

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EDUCATION

Binghamton University, Watson School of Engineering   Sep 2016 - May 2020

B.S. Computer Science, *cum laude* 3.5

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

SKILLS

Languages: C, C++, JavaScript, Java, Rust, PHP, Prolog, Haskell, Assembly
Tools: Git, Docker, Jira / Atlassian, Google Cloud, Android Studio, Firebase, NGINX, Jenkins
Tech: OAuth, Linux, MongoDB, Node.js, React.js, CSS, HTML, MySQL

PROFESSIONAL EXPERIENCE

Ramagine, Los Angeles, CA   May 2019 – June 2020

Full-Stack Software Engineer

– One of two engineers that launched a collaborative platform for reverse engineering malware samples remotely using the NSA's Ghidra codebase for in-browser, server-side disassembly with scripting and code-commenting capabilities
– Implemented microservice architecture containerized by Docker to form a RESTful JSON API using Node.js and Java
– Utilized MongoDB for user analytics, Auth0 for authentication, built front-end in React, and wrote over 10,000 lines of code
– Pitched product to cybersecurity companies during DEFCON in August 2019, assisted contract team of front-end developers in React, and actively participated in weekly strategy meetings with company founders

Research Foundation of SUNY, Binghamton University   Apr 2017 - Sep 2017

Research Aide

– Research focused on SQL injection, XSS attacks, and mitigating risk of data breaches within Binghamton's network
– Independently designed a system for user-generated health forms sanitized by a PHP and MySQL backend, 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

troyballinger.com   February 2017 – Present

– Wrote a personal website from scratch with SSL/HTTPS, SEO best practices, and frequent personal experiments

AI Car Recognition for Garage Doors, Binghamton University   Sep 2019 – Dec 2019

– Raspberry Pi Node.js server sends pictures of approaching car to OpenALPR's API to check car description against trusted cars stored in a Firebase DB, door opens upon recognition; sent unrecognized cars for approval on paired Android App
– Coordinated meetings, wrote the server code, gave four presentations, and was ranked 1st of 10 teams for project

Adv. Object-Oriented Programming, Binghamton University   March 2019

– Wrote a complete replica of std::map using an internal skip list, a thread-safe, reference-counting std::shared_ptr, a std::deque using only templates, and a fully-functional shell simulator in C++

ACTIVITIES & LEADERSHIP

Association of Computing Machinery   Apr 2019 – Present
Upsilon Pi Epsilon, Binghamton University   Feb 2019 – May 2020
CS301: Ethical, Social, & Global Issues in Computing, Binghamton University   Jan 2019 – May 2019

Teaching Assistant

– Responsible for grading, providing feedback, and correcting MLA formatting on students' research papers weekly within computer science field
– Presented to class on technical writing techniques and the significance of current events within the tech community