Zack Nawrocki

zacknawrocki@gmail.com zacknawrocki.github.io znawrocki zacknawrocki

Summary

Experience in the fields of software engineering, data science, cybersecurity, as well as academia and industry research in relation to smart, efficient buildings, privacy, IoT, and healthcare, consisting of contributions in the areas of smart indoor thermal management HVAC algorithms, smart lighting systems, and the underlying software that goes along with it all. Currently, I am furthering my skills in machine learning, quantum computing, and blockchain technologies.

Education

Rensselaer Polytechnic Institute Dec. 2020
Bachelor of Science in Computer Science, Concentration in AI and Data
Rensselaer Medal Award: the Medal seeks to recognize superlative academic achievement and motivate students toward careers in science, engineering, and technology, guaranteeing $30,000 per year in scholarships.
Clubs: RPI Computer Science Club, Alpha Sigma Phi (Head of Philanthropy/Webmaster/Academic Advisor/Alumni Relations)

Experience

Spherical Analytics, *Software Engineer* May 2020 - Current
Spherical Analytics integrates blockchain technology with big data ingestion, machine learning, and advanced analytics, to provide a strategic tool for environmental impact.

National Science Foundation - Lighting Enabled Systems & Applications, *Software Development Research Engineer* Jan. 2019 - May 2020

- Awarded a grant from the National Science Foundation to work on a project for the Lighting Enabled Systems & Applications Engineering Research Center, which is dedicated to developing autonomous intelligent systems, to address modern challenges in the connected environment.
- My project involved the area of autonomous HVAC control for smart buildings, in which I integrated occupant localization, optimized system controls, implemented and evaluated an integrated system for collecting user preferences, and worked on an efficient data-driven learning and MPC smart HVAC personalization algorithm, for cohabited work spaces.

Leidos, *Software Engineer Intern* May 2018 - Aug. 2018

- Originally the commercial cyber security division of Lockheed Martin, Leidos Cyber was acquired by Capgemini while working here in 2018
- Developed and tested for the Industrial Defender Automation System Manager (ASM) platform, a management platform that aggregates event and state data from industrial endpoints across all vendor systems in one location for a single, unified view of operations.
- Responsible for the development and implementation of a new feature in ASM 7.1, where asset licenses are automatically classified before being configured on the ASM, as well as QA testing of ASM, ASA, agents, network-based intrusion detection systems, and other components of the Industrial Defender ASM Solution.

Skills

Languages: C++, Python, C, Java, Assembly, Processing, JavaScript, PHP
Skills: ROS, Agile, Git, IoT, QA, Software Engineering, Machine Learning, Web Development

Selected Projects/Publications

Co-authored Smart HVAC Publication
Smart Temperature Control in Cohabited Workspaces Through Improved Personalization and Energy Efficiency, releasing in June 2020 and will be presented at Dynamic Systems & Control Conference 2020

The Smart Conference Room Project
This collection of projects advances many research areas related to smart, efficient buildings, HVAC, IoT, and lighting, as well as breakthroughs related to ToF location-based temperature and lighting occupant satisfaction, pre-heating/pre-cooling energy-saving algorithms, autonomous meeting management, and lowering energy consumption in buildings.

Open IO
Contributor of Open IO: an open-source, real-time multiplayer game engine solution, intended for the development of IO games.

Relevant Coursework

This Fall: Randomized Algorithms for Machine Learning and Optimization, Computing & Quantum Computing, Machine Learning from Data, and Programming Languages
Past: Operating Systems, Introduction to Artificial Intelligence, Open Source Software, Software Design and Documentation, Network Programming, Computational Biology, Principles of Software, Introduction to Algorithms, Computer Organization, Foundations of Computer Science, Data Structures, Computer Science I, Differential Equations, Multivariable Calculus and Matrix Algebra, Calculus II, and Calculus I