Darren Mascioli

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Pittsburgh, PA

Experience

Siemens Mobility, Inc.
Engineering Development Program

Pittsburgh, PA
June 2022 – Dec 2022

Automated Rail Rotation
- Expanded software features for distributed train dispatch system. (Python, C++, Kubernetes)
- Developed skills in continuous integration and development using automated build pipelines and deployment tools. (Docker, Helm, Gitlab CI/CD, Kubernetes)

PTC Software Rotation

New York, NY
Jan 2022 – June 2022

- Wrote unit tests for Positive Train Control system utilizing CI/CD platform. (C++, Jenkins)
- Worked with development team in Agile environment to fix defects in code base. (C++)
- Effectively analyzed legacy code and safety certified compiler behavior to correct memory initialization errors. (C++)

Wayside Engineering Rotation

Pittsburgh, PA
Jul 2021 – Dec 2021

- Designed and manufactured custom circuit board for wheel detector simulation circuit. (PCB Layout, Schematic Design)
- Wrote Arduino code to generate precise timing for wheel detector simulation signals. (Arduino, C++)
- Generated BOM of MTA approved parts for NYCT subway training cabinet.

Onboard Software Rotation

Pittsburgh, PA
Jan 2021 – Jun 2021

- Created database of train system communication messages along with web interface to allow for synchronized development process. (Python, SQLite)
- Developed key features for custom automatic test generation program. (C#, WPF)
- Wrote automated scripts to find errors in logs to track down software issue. (Python)
- Assembled and coded simulator for crash-hardened device to test functionality of new software features and RS485 communication on train system. (Arduino, C++, Soldering)
- Configured unit tests to generate code coverage for embedded train firmware. (C)

Bridge Fusion Systems
Embedded Software Engineering Co-Op

Plum, PA
May 2018 – July 2020
3-rotation co-op,
Internship

- Added ethernet connectivity to track switch platform. (C, ARM – STM32)
- Introduced and developed new data storage platform with SQL Server for manufacturing production database. (SQL, Python)
- Added new firmware feature to power dissipation devices to automatically prevent diesel generator wet stacking. (C, ARM – NXP)
- Implemented firmware features for streetcar track switch equipment including adding support for new SPI flash memory component. (C, ARM – STM32)
- Created additional software feature to update firmware version of multiple IoT devices at one. (C#)
- Expanded functionality of and created multiple WPF GUI applications. (C#)
- Performed multiple product demonstrations to clients to ensure correct implementation of requirements.

Education

University of Pittsburgh – *B.S. in Computer Engineering*

Pittsburgh, PA
Dec 2020

Minor in Political Science
GPA: 3.822 - *Graduated Summa Cum Laude*

Skills

Languages:	**Tools:**	**Operating Systems:**	**Hardware:**
C, C++, Python, Java, C#, HTML/CSS, JavaScript, SQL	Visual Studio, Eclipse, Git, SVN, Flask, WPF, Jenkins, CMake, Kubernetes, Docker, Helm	Windows (10, 7), Linux (Ubuntu, Debian), Embedded Round Robin, RTOS, ThreadX, Docker, Raspberry Pi OS	Soldering, Oscilloscope, DMM, UART, BLE, I2C, SPI, 1-Wire, Modbus, Ethernet, Schematic Design, PCB Layout

Projects

BikerBlinker
Senior Design Project

Aug 2020 – Dec 2020

- Capstone project to develop voice-activated turn signals for bicycles
- Responsible for embedded firmware and wireless communication on ESP-32 (C++, BLE)
- Helped oversee schematic design, budget management, and integration testing

2020 NAESC Engineering Leadership Summit
Conference Director

Pittsburgh, PA
April 2019 - March 2020

- Organized two-day national conference for almost 300 attendees
- Managed budget of approximately $80,000 and communicated purpose of conference and national organization to secure ~$10,000 worth of corporate sponsorship deals
- Facilitated virtual conference activities after cancellation of event due to COVID-19

Leadership

Engineering Student Council
Conference Director, Vice President, Board Member

Fall 2017 – Fall 2020

- Worked with other officers to promote academic, professional, and social development within Pitt Swanson School of Engineering.
- Attended regional and national conferences to develop leadership and communication skills.

Achievements

Graduated Summa Cum Laude

Dec 2020

University of Pittsburgh Swanson School of Engineering Dean's List

Multiple Semesters

Tau Beta Pi Engineering Honor Society – Vice President, Inducted Member

April 2019 – May 2020