

Darren Mascioli

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Pittsburgh, PA

Experience **Siemens Mobility, Inc.**

Software Developer

- Planned, designed, developed, and published software tool to assist freight railroads download data and compile FRA reports. (Python, Networking)
- Supported rail customers by providing bug fixes and software updates to deliver contract requirements. (C++, C, Requirements Management)

Engineering Development Program – 2 Year Rotational Program

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

- Wrote unit tests for Positive Train Control system utilizing CI/CD platform. (C++, Jenkins, CI/CD)
- 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

- 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

- 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

- 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.

Skills

Languages:

C, C++, C#, Python, Java, HTML/CSS, JavaScript, SQL

Tools:

Visual Studio, Eclipse, Git, SVN, Flask, WPF, Jenkins, CMake, Kubernetes, Docker, Helm, VMware, VirtualBox

Operating Systems:

Windows (10, 7), Linux (Ubuntu, Debian), Embedded Round Robin, RTOS, ThreadX, Docker, Raspberry Pi OS

Hardware:

Soldering, Oscilloscope, DMM, UART, BLE, I2C, SPI, 1-Wire, Modbus, Ethernet, Schematic Design, PCB Layout

Education

University of Pittsburgh – B.S. in Computer Engineering

Minor in Political Science
GPA: 3.822 - *Graduated Summa Cum Laude*
Tau Beta Pi Honor Society

Pittsburgh, PA
Dec 2020

Projects

2020 NAESC Engineering Leadership Summit

Conference Director

- 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

Pittsburgh, PA
April 2019 - March 2020

Leadership

Engineering Student Council

Conference Director, Vice President, Board Member

- 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 networking skills.

Fall 2017 – Fall 2020