Adrian H. Padin

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SUMMARY Seeking a full-time software engineering position. I have 4+ years experience in embedded software development in C, C++, and Rust; and 4 years experience in ERP business software using Wolfram Language and Mathematica. I am a motivated and hard-working individual with a desire to make a difference and collaborate with like-minded people.

WORK EXPERIENCE

Hubbell, Inc. / Aclara LLC Solon, OH
Senior Firmware Engineer July 2023 - Present

- Hubbell, Inc. is a global company that provides electrical equipment and infrastructure for consumers and utility providers. Aclara is a division of Hubbell that specializes in metering infrastructure for gas, water, and electrical utility systems.
- Served as one of the primary developers for Acalara's next generation line of meter data collection and monitoring system. Developed firmware for the Base Station, the device that collects and aggregates meter data for all meters in the surrounding area. Meter data is collected wirelessly with a custom RF protocol and then sent over an ethernet or cell connection to a cloud server.
- Primary developer for the part of the Base Station firmware which implemented the application layer of the custom RF protocol, focused on collecting and parsing gas and water meter data.
- Developed code primarily in Rust, which I had no prior experience with.

Wolfram Research, Inc. Champaign, IL
Wolfram Language Developer, ERP Business Software April 2019 - July 2023

- Wolfram Research Inc. develops software which enables students, researchers, and businesses to perform computation and analyze data for a variety of use cases. Their main products are Mathematica and Wolfram Alpha, which both make use of the Wolfram programming language.
- As part of a team of 6+ developers, created a custom ERP system to handle order processing and product licensing for Mathematica, Wolfram Alpha, and every other Wolfram product. This system made use of EntityLink, a framework we designed which can generate both a database schema and an API for creating, updating, and retrieving structured data using a single set of configuration files.
- Made significant code and infrastructure contributions, including developing a job queuing system to handle asynchronous tasks in a timely manner, implemented using the same EntityLink framework and Wolfram language code.

Control-Tec, LLC. Allen Park, MI
C++ Software Developer, Embedded Linux May 2017 - April 2019

- Developed next-generation automotive data collection software for a live data-processing application called CT-EDGE. This software collects data from the vehicle using broadcast CAN and standardized request formats including J1979 and UDS, and can analyze the data based on configurable triggers to send notifications and telemetry to a cloud server over a cellular connection.
- Gained extensive experience with the Legato embedded Linux IoT platform. The platform is similar to Android, where developers can create sandboxed "apps" that communicate through secure IPC. This allowed our team to improve security by separating functionalities such as vehicle data collection, cloud communication, and over-the-air firmware updates.
- Managed a small team of engineers to assist in software development and white-box testing.

Merit Network, Inc. Ann Arbor, MI

Research Assistant, Data Analyst May 2016 - May 2017

- Research assistant under Dr. Michalis Kallitsis, researching anomaly detection for early warnings of Distributed Denial-of-Service attacks and other malicious data-injection attacks.
- Assisted with a project to develop Machine Learning algorithms and tools to detect false data injection attacks on a smart electrical grid. The goal was to prevent an attacker from manipulating a homeowner's electricity usage. I wrote scripts to aggregate the data from various sensors, feed the it to the algorithm and interpret the results.
- Primary author on a research paper detailing an experiment conducted at a facility in Detroit, MI, to test the custom analysis software we had designed in a real-world environment. The paper was presented by Dr. Kallitsis at a conference for IoT Smart Grid applications.

Innovative Devices, Inc. Bedford Hts., OH

Software Engineering Intern May 2015 - Sept 2015

- Assisted in research and development of the Mycestro wearable computer mouse and worked with a team of engineers to develop integration software in Python and Ruby for using the Mycestro as a 3D mouse.
- Wrote Python plugins to model rotations of simulated objects using matrix rotations and vector mathematics. Motion data from the Mycestro was then used to control these rotations.

TECHNICAL SKILLS

Programming Languages:

- Proficient in C, C++, Rust, Python, and Mathematica / Wolfram Language.
- Comfortable with HTML, Javascript, and Bash.
- Also worked with Ruby, PHP, C#, Java, and Matlab.
- Familiar with Object-Oriented and Functional design strategies.
- This resume was created with LaTeX. You can view the source files on my GitHub page (see bottom).

Software:

- Git version control.
- Google Test (gtest) unit test framework.
- Linux and Windows user, especially Linux command line tools.

Hardware:

- Designed custom PCBs using Eagle design software.
- Experienced with hand soldering PCBs and components.

EDUCATION

University of Michigan Ann Arbor, MI

B.S.E. in Computer Engineering May 2017

Minor in Music

GPA: 3.94/4.0

Relevant Coursework

EECS 473: Advanced Embedded Systems	EECS 482: Operating Systems
EECS 461: Embedded Control Systems	EECS 445: Machine Learning
EECS 373: Microprocessor Programming	EECS 388: Computer Security

PERSONAL

University of Michigan Marching Band Aug 2013 - May 2017
Trumpet Player
Manager, MMB Merchandise Staff from 2014-2015
Treasurer, Tau Beta Sigma Honorary Band Society from 2015-2017

Favorite Text Editor: Visual Studio Code (GUI), Vim (terminal)
Favorite Browser: Firefox
Hobbies: Playing trumpet, building gadgets, video games

WEBSITES

LinkedIn: https://www.linkedin.com/in/adrian-padin-320a34a4
Github (resume source code): https://github.com/padinadrian/resume

References available upon request