Sebastian Pineda

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EDUCATION:

B.S in Computer Science with Honors, Worcester Polytechnic Institute, May 2023, Worcester, MA, GPA: 3.5

SOFTWARE ENGINEERING & TECHNICAL EXPERIENCE:

Associate Embedded Software Engineer, Bloomy Controls Incorporated, 68 Nutmeg Road South, South Windsor, CT 06074, June 2023 – Present

- Implemented a C code generation command line tool in Python that interfaced with a jinja-to-C code transpiler to create physical model simulations for NI VeriStand.
- Pioneered a SCPI interpreter written in Rust that can automate embedded instrument control via either file interpretation or an interactive shell environment similar to Python's CLI.
- Designed a data visualization library using C++ and Qt for the purpose of digital signal processing and analysis of signal principle amplitudes, frequencies, and phases.

Feature Recognition from Aerial Images Using Machine Learning, United States Army DEVCOM Soldier Center & WPI, August 2022 – March 2023

- Developed a machine learning transfer learning model and a convolutional neural network using python TensorFlow and OpenCV that can utilize photo data of a destination's terrain to aid parachute drop-offs without the need for satellite imaging or GPS.
- Verified model accuracy to sponsor through test data validation and error metric evaluation using python Seaborn to minimize error residuals.
- Consolidated a simulation in Unreal Engine and C++ into a runnable executable to provide our machine learning algorithm training data to DEVCOM users without the need of technical expertise.

Information Technology Intern, The New England Center for Children, Fayville, MA, June 2021 – August 2021

- Specialized in Linux based environments and automated administrative tasks with Bash.
- Supported the technical operations of approximately 200 students and 100 teachers with a team of 6 information technology specialists.
- Solved technological difficulties ranging from exterior hardware issues to software troubleshooting in approximately 100 classrooms.

SKILLS:

- **Programming Languages:** C, C++, Python, Rust, HTML/CSS, MATLAB, Java.
- **Development Tools:** Git, Linux/Unix Environments, C++ Qt, OOP, Statistical Analysis, Numeric Methods, SVN Source Control.
- **Embedded Software Engineering:** PCB Spring Clip Probing, Raspberry Pi Pico SDK experience, Hardware Debugging.
- **Other Technologies:** Microsoft Office.

CAMPUS LEADERSHIP:

Phi Kappa Theta Fraternity Chapter President, January 2022 – December 2022

Chaired all 3 weekly general body, cabinet, & executive board meetings. Served as the liaison between the Fraternity & WPI's Students Activities Office. Acted as one of 13 voting members of WPI's Interfraternity Council, engaging in the governing processes with other chapters.

Student Alumni Society Interim Membership Chair, January 2023 – March 2023

Ran general body meetings, including weekly membership Activities. Maintained a concise record of membership attendance & active membership status of approximately 50+ members, as well as maintained distribution lists for 7 executive board sub committees. Administered weekly membership initiatives for 6 weeks in the academic term.

Phi Kappa Theta Fraternity Chapter Vice President of Finance & Risk, January 2021 – December 2021

Maintained all finances for the Fraternity, including collecting chapter dues & ensuring the balancing of our budget. Proposed 2 semi-annual budgets a year to be approved by the Executive Board & General Body and submitted to the National Office for approval. Served as risk manager to ensure the health & safety of all 30 general body members.