Reinaldo **Molina**

M.S. SOFTWARE ENGINEERING · B.S. ELECTRICAL ENGINEER

Clearwater, FL, USA

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Summary

- Highly experienced software developer with over 8 years of experience in developing software. Graduated as an Electrical Engineer but quickly developed a passion for software development. Started career at Honeywell, where I developed test software for the equipment manufactured there. Pursued a Masters in Software Development to further enhance my skills.

- During my time at Honeywell, I gained expertise in developing test software that interfaced with various NI cards, controlled power supplies, relays, oscilloscopes, and digital multimeters.

- Now, at ICC, I work on integrating new sensors into a data acquisition hardware platform. I have extensive experience in hardware-software integration, working with oscilloscopes, digital multimeters (DMMs), digital signal analyzers, and various communication interfaces. Additionally, I developed code for a cross-platform backend application in modern C++ that runs on Linux and Windows, utilizing CMake and Visual Studio for build systems.

- I am passionate about software development, my main language for development is C++, although I also have experience in C, Python, C#, and many more languages. I possess a strong background in Linux CLI applications and am dedicated to continuously expanding my knowledge and skills in the field of software development.

Skills

Programming Languages	C++, Python, C, Java, C#, UML, TEX, Lua.
IDEs	Visual Studio, CMake, Borland C++ Builder.
Version Source Control	Git, SVN, Github, Gitlab
Scientific Publishing Systems	Quarto, Jupyter
Hardware	Oscilloscope, Digital Signal Analyzers, Multimeter, Microcontrollers
Communication Interfaces	RS232, I2C, UART, 1553, Ethernet
Languages	Fluent in English and Spanish.

Work Experience

International Cybernetics | *Clearwater, FL*

SOFTWARE/HARDWARE TEAM LEAD — *Oct 2022 - Present*

- Lead a team of 4 engineers in the maintenance and development of a data acquisition system
- Developed modern C++ code for a Linux backend data collector computer, and a Windows GUI
- Integrated new sensors into a hardware application in charge of collecting data from multiple communication interfaces.
- Implemented industry-specific algorithms in accordance with industry standards
- *Promotions: Hardware/Software Team Lead (2023)*
- *Technologies: C++, C#, docker, CircleCI, VS2022, I2C, UART, Raspberry Pi Pico*

Honeywell Aerospace International | *Clearwater, FL*

SENIOR ADVANCED SOFTWARE ENGINEER — *May 2015 - Oct 2022*

- Maintain and enhance a C++ based testing framework.
- This framework controls several hardware interfaces, such as: Power Supplies, DIO modules, relays, oscilloscopes, and various National Instruments analysis cards.
- Implemented graphical user interface to display data from various Inertial Navigation Systems.
- Improved automated test scripting standards, test review checklists, and test execution procedures, significantly reducing review and execution time.
- *Promotions: Software Engineer II (2017), Senior Software Engineer (2019), Senior Advanced Software Engineer (2021)*
- *Technologies: C++, C#, Visual Studio, Python, MIL1553, RS232, NI LabWindows/CVI*
- *Awards: Honeywell Aerospace 2017 Outstanding Engineers.*

BlackBerry   *Ft. Lauderdale, FL*

Electrical Test Intern   *Fall - 2014*

- Member of the handheld hardware development team responsible for the design, integration, and verification of the baseband and digital subsystems for a mobile computing design.
- Directly responsible for testing all communication interfaces.

Certifications

Python for Data Science, AI & Development   *Online*

Coursera   *Oct 2022*

- Credential ID: 4FZN6SWNQQS3

Machine Learning Foundations: A Case Study Approach   *Online*

Coursera   *May 2022*

- Credential ID: 2PNY97HX4AAK

Free Open Source Software Development

file-audit-system

Linux file system monitoring and auditing application   *Role: Author & Maintener*

- File monitoring software that logs file access to configured directories on the system.
- https://github.com/tricktux/file-audit-system.
- *Technologies: C++-11, CMake, Linux Auditing System*

dotfiles

Collection of dotfiles for over 15 different Linux, and Windows applications   *Role: Author & Maintener*

- https://github.com/tricktux/dotfiles
- *Technologies: tmux, zsh, ssh, gnupg, bash, i3wm, git, (neo)vim, polybar, cmus, neomutt, pacaur*

Academic Engineering Experience

Final Project for Master's Program   *Clearwater, FL*

Capstone Experience   *Summer - 2019*

- Team Effort to develop a Patient Portal System web application.
- The application included: Ability to register, make appointments, todo list items, doctor chat, view health records, prescriptions, and pay bills.
- *Technologies: Amazon Web Services: EC2, SES, Route53. Java, Python, Selenium, Gradle, Spring Boot, Junit*

T.A. for Digital Logic Lectures   *Gainesville, FL*

Teacher Assistant   *Summer - 2014*

- Responsibilities included teaching the laboratory section, grading homework, quizzes, exams, and providing office hours.

Design of an Autonomous Rover Vehicle   *Gainesville, FL*

Intelligent Machine Design Lab Course   *Fall - 2013*

- Construction and design of a vehicle capable of doing facial recognition, color recognition, and obstacle avoidance.
- Selected as one of the top 3 projects of the class.
- https://sites.google.com/site/thepatrollingandroid/home
- *Technologies: C++, CMake, ROS, Odroid, Embedded Software, OpenCV, Ubuntu, ATxmega*

Education

M.S. in Software Engineering   *World Campus*

Pennsylvania State University   *Aug. 2017 - Aug 2019*

B.S. in Electrical Engineering   *Gainesville, FL*

University of Florida   *Jan. 2012 - May 2015*