

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 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
- *Technologies: C++, C#, docker, CircleCI, VS2022, I2C, UART, Raspberry Pi Pico, Parker IMU/AHRS*

Honeywell Aerospace International

Clearwater, FL

SENIOR 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.
- Coordinated and resolved testing and development issues that engineers and customers had at multiple locations (South Korea, Puerto Rico, FL, NM, NJ).
- *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

Machine Learning Foundations: A Case Study Approach

COURSERA

- Credential ID: 2PNY97HX4AAK

Online

May 2022

Free Open Source Software Development

file-audit-system

LINUX FILE SYSTEM MONITORING AND AUDITING APPLICATION

Roll: 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

Roll: Author & Maintener

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

molinamail.com

SELF HOSTED SERVER FOR: EMAIL, CLOUD STORAGE, CALENDAR, AND CONTACTS

Roll: Author & Maintener

- Feel free to email me at: *me at molinamail dot com*
- <https://box.molinamail.com/email>
- *Technologies: DigitalOcean, AWS-Route53, Mail-In-A-Box, fail2ban, ufw*

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*

Design of an Autonomous QuadCopter

Gainesville, FL

SENIOR DESIGN COURSE

Spring - 2015

- Design a QuadCopter with the purpose of surveying a specific GPS area with aid of a camera.
- *Technologies: C++, CMake, ROS, Odroid, Embedded Software, PCB Design, OpenCV, Ubuntu, ATxmega*

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