

# 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, Parker IMU/AHRS*

### 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

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## Python for Data Science, AI & Development

COURSERA

- Credential ID: 4FZN6SWNQQS3

Online

Oct 2022

## Machine Learning Foundations: A Case Study Approach

COURSERA

- Credential ID: 2PNY97HX4AAK

Online

May 2022

# Free Open Source Software Development

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## 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

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## Final Project for Master's Program

CAPSTONE EXPERIENCE

Clearwater, FL

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

TEACHER ASSISTANT

Gainesville, FL

Summer - 2014

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

## Design of an Autonomous Rover Vehicle

INTELLIGENT MACHINE DESIGN LAB COURSE

Gainesville, FL

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

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## M.S. in Software Engineering

PENNSYLVANIA STATE UNIVERSITY

World Campus

Aug. 2017 - Aug 2019

## B.S. in Electrical Engineering

UNIVERSITY OF FLORIDA

Gainesville, FL

Jan. 2012 - May 2015