

ERNESTO LUIS MALTA RODRIGUES FILHO

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SUMMARY

Software Engineer with 10+ years of experience in C/C++ for embedded systems and high-performance applications, with 2+ years building scalable Java microservices on Azure and OpenShift. Focused on performance optimization, system reliability, and clean architecture across low-level and cloud environments. Automates CI/CD pipelines and develops efficient, maintainable solutions for complex, high-throughput systems.

SKILLS

- **Programming**
 - C, C++ (C++14, C++17, C++20), Python, Java (17, 21), JavaScript, Bash/Shell
- **Backend & APIs**
 - REST, microservices, SQL, Snowflake, SpringBoot
- **Frontend**
 - HTML, CSS, JavaScript, React
- **Embedded Systems**
 - ESP32, STM32, Arduino, Tiva C
- **Cloud & DevOps**
 - Azure, CI/CD, GitHub, OpenShift, Kubernetes, Datadog, K6
- **Systems**
 - Linux, Windows, multithreading, networking

PROFESSIONAL EXPERIENCE

2023 -

SOFTWARE ENGINEER - EXXONMOBIL GLOBAL BUSINESS CENTER BRASIL - CURITIBA, PARANÁ, BRAZIL

- Engineered automated CI/CD pipelines using GitHub, Python and Bash to streamline high-quality deployments to Azure Red Hat OpenShift via Kubernetes
- Spearheaded Canary deployment strategies integrated with continuous Grafana K6 performance testing to validate new releases before production rollout
- Architected and maintained Java microservices within Red Hat's Disconnected ARO in Azure, focusing on ease of use and reliability by clients
- Increased system throughput by identifying and resolving critical performance bottlenecks within core Java microservices
- Enhanced system observability by leveraging enterprise-grade tools like Datadog and Snowflake, providing real-time visibility into data pipelines and service health
- Optimized software reliability through the implementation of Test-Driven Development (TDD) and daily K6 load and stress testing protocols
- Developed custom evaluator tools for DBT projects to automate quality checks in pull requests, monitors, and dashboards in Datadog
- Delivered 5+ internal web applications by leveraging a standardized Storybook UI library to ensure consistent user experience and responsive design
- Architected a custom JavaScript interface to facilitate seamless data interactions with SharePoint's REST API for internal business tools
- Led a cross-platform refactoring initiative to enable consistent software builds on Windows and seamless deployments on Linux environments
- Directed a strategic hardware migration from MacBooks to Windows laptops, enhancing enterprise security protocols while reducing hardware expenditure

2018 - 2019

ASSISTANT - FUNDAMENTALS OF PROGRAMMING 2 COURSE AT UTFPR - CURITIBA, PARANÁ, BRAZIL

- Developed a website to help students install and debug their apps
- Established guidelines and tutorials for installation of libraries and compilers
- Helped students set up and troubleshoot issues in their code
- Collaborated with the teacher to provide tools and resources to students
- Studied PHP, SQL, HTML, and CSS to host the website on Hostinger

FORMAL EDUCATION

2025 -

MASTER'S PROGRAM IN ELECTRICAL ENGINEERING & INDUSTRIAL INFORMATICS

- UNIVERSIDADE TECNOLÓGICA FEDERAL DO PARANÁ (UTFPR) - CURITIBA, PARANÁ, BRAZIL

2016 - 2024

B.S. IN ELECTRICAL AND ELECTRONICS ENGINEERING - UNIVERSIDADE TECNOLÓGICA

FEDERAL DO PARANÁ (UTFPR) - CURITIBA, PARANÁ, BRAZIL

PROJECTS

MODULAR MONITOR PROJECT - FINAL COURSE WORK

- An embedded C++ project for ESP32 using Arduino IDE, real-time operating systems (RTOS), and VS Code
- Contains custom libraries for Serial/Wire/I2C communication, improved threading for parallelism, TCP for wireless monitoring, and CSV-based data visualization tools
- Includes enhanced versions of TFT display library with touchscreen support, 4G GSM connection, Circular Queue, and multiple Adafruit and other sensor libraries.
- The project allowed for hot-swappable I2C modules to communicate automatically to a core device (called Brain) to collect sensor data, and display data on a TFT LCD, SD card, and web interface

LUNARIS LIBRARY COLLECTION - OPEN SOURCE CROSS-PLATFORM LIBRARY

- Cross-platform C++ utility suite (C++20 / C++23 ready)
- Includes modules for sockets, process management, multithreading, async programming, and encryption
- Uses generic template models, thread-safe designs, and fine-tuned libraries such as highly memory-optimized cJSON library for embedded devices
- Contains quality-of-life tools for various scenarios

GITHUB PAGE - LOHKAT.GITHUB.IO

- About me, tools, links, updates, and experiments in front-end (HTML, CSS, and JS)
- Contains a web player for LoFi streaming with unique radio-like experience

GAMES AND TOOLS - EXAMPLES OF PERSONAL PROJECTS

- **BubblePopper**
 - My true first multi-platform compiled game in C++17
 - Made with Allegro 5 graphics library
 - Generated with CMake for easier cross-platform compilation
 - Uses embedded resources within the application executable file
- **WebCMD**
 - Tool targeted to allow remote application management via a web interface
 - Made in C++ with CMake to allow cross-platform
 - Uses modern JavaScript to enhance user experience (UX) through responsive and fast loading times

LANGUAGES

- Portuguese (native)
- English (advanced)

COMPLEMENTARY EDUCATION

2017 - 2018

CINEMA - CENTRO EUROPEU - CURITIBA, PARANÁ, BRAZIL

- Studied storytelling, technical production skills, color grading, editing, effects, filters
- Gained knowledge on portraits, aspect ratios, framing, camera sensor tech and characteristics
- Acted, performed, directed, written, and edited short films

2011 - 2011

LIBRAS - FESP - CURITIBA, PARANÁ, BRAZIL

- Learned Brazilian Sign Language, with basic conversation and alphabet
- Got to know the culture of the deaf community