

MATEUS M. FURQUIM MENDONCA

Machine Learning Engineer & Backend Developer

@ mfurquimdev@gmail.com

+55 (61) 9 8189-2456

mfurquimdev

in/mfurquimdev

mfurquim.dev

EXPERIENCE

Machine Learning Engineer

DevGrid

Jan 2021 – Present

Remote

Maintained several microservices that employ machine learning algorithms to estimate the energy usage of household appliances.

- Achieved up to 59% improvement in **Python** write operations on **Cassandra** through the safe utilization of unlogged batches.
- Effectively lowered hourly expenses by up to 65% by migration the computing instances from x64 to ARM processors within the stack.

Embedded Software Developer

Autotrac

Nov 2019 – Aug 2020

Brasília, DF - Brazil

Maintained the security and logistic features of an embedded system for a customized hardware.

- Employed dependency injection and other **SOLID principles** to enhance **C++** code quality.
- Created **ansible books** to automate the configuration of Linux environment for the development of a low-level system.

DevOps Consultant

IBM

Jan 2019 – Nov 2019

Brasília, DF - Brazil

Collaborated with multiple teams to improve observability of the back-end services for a prominent banking institution.

- Contributed to the development of self-discovering services by utilizing the **etcd** key-value store, **consistent hashing** and a **federation of Prometheus**.
- Employed **PromQL** to develop alerts that detected potential DDoS attacks and low performance of new deployments.

Security Software Researcher

LADES at UnB

Nov 2015 – Jan 2017

Brasília, DF - Brazil

Enhanced an Intrusion Detection System with unsupervised machine learning to strengthen the security measures of the Brazilian Army.

- Configured a **Debian** server to capture all network packets in promiscuous mode using **Wireshark** and replay them in a controlled environment.
- Successfully detected masked malicious network packets using **K-Means clustering** algorithm and distributed processing with **Spark** and **Hadoop**.

Software Engineer Intern

CanAssist at UVic

Jan 2015 – Apr 2015

Victoria, BC - Canada

Developed an elderly care embedded system which notifies relatives in case of emergency.

- Accomplished a low resource consumption of **Raspberry Pi** by rotating log using the **C/C++** language and the **Qt** Framework.
- Created an entire configuration menu using the **Asterisk** framework with Text to Speech capabilities to be used via a phone call to the Raspberry Pi.

EDUCATION

Machine Learning DevOps Engineer

Udacity

Nov 2021 – Dez 2022 Online

BEng. Software Engineering

Universidade de Brasília (UnB)

Mar 2011 – Jul 2017 Brasília, DF - Brazil

University of Victoria (UVic)

Jan 2014 – Apr 2015 Victoria, BC - Canada

Exchange Student

LANGUAGES

Portuguese	Mother Tongue
English	Fluent
Python	Working Knowledge
C/C++	Working Knowledge
Rust	Basic Knowledge
Elixir	Basic Knowledge

DISTINCTIONS

- Striving for process efficiency and automation through **bash script** and **CI/CD**
- Thoroughly **eliciting requirements** in order to design more efficient solutions
- Demonstrated competence in rapid project development by participating in Hackathons and Game Jams.

PUBLICATION

Big Points: An analysis based on game theory
UnB github.com/mfurquimdev/tcc

Jul 2017

Brasília, DF - Brazil

Discovered an imbalance in the Big Points game using the Minimax theorem and **Dynamic Programming** techniques in **C/C++**.