# GUILHERME GONÇALVES

## Computer Engineer

07 June 1994, Brazilian | inacio.guilherme@gmail.com | +55 22 99923-1446 | Nova Friburgo, Brazil
linkedin.com/in/inacioguilherme | github.com/ingoncalves

## EXPERIENCE

### Full-stack Developer & Software Engineer

**O2 Filmes**

Sept 2018 – Present | Remote

- Developed a robust and online text editor and project manager dedicated to screenwriters.
- Developed its Back-end using Ruby on Rails and its Front-end using React, operating in a large-scale distributed architecture.
- Implemented features such as multi-user tracking, data visualization, notifications, file upload, advanced graphical interface features, etc.

### Data Quality Validator

**CERN – European Organization for Nuclear Research**

Feb 2021 – Mar 2021 | Remote

- Analysis of data quality and integrity of electronic components in the Tile Calorimeter, the hadron calorimeter covering the central region of the ATLAS experiment at the Large Hadron Collider.

### Scientific Researcher & Software Engineer

**CERN – European Organization for Nuclear Research**

Mar 2019 – Mar 2020 | Geneva, Switzerland

- Designed and developed an energy estimation algorithm for the ATLAS Tile Calorimeter.
- The tool is based on machine learning techniques and was developed using C++ in a world-wide distributed system.
- Created a pulse generator used to simulate electronic readouts for data processing and physics analysis.

### Full-stack Developer & Software Engineer

**DataHex Computer Technology**

May 2016 – Jun 2018 | Nova Friburgo, Brazil

- Developed and Designed an Event Ticket application for Android with data synchronization and Bluetooth printer.
- Developed and Designed a cloud-based Point of Sale system with business management features.
- Developed its Back-end using NodeJS and its Front-end using AngularJS following the micro-services approach.
- Developed a desktop application using Electron with data synchronization across the internet and among multiple local network nodes (using P2P).
- Developed an industry-standard authentication system implementing the OAuth 2.0 and OpenID Connect protocols.

## EDUCATION

### Doctor's degree in Computational Modelling

**Rio de Janeiro State University**

Mar 2021

### Master's degree in Computational Modelling

**Rio de Janeiro State University**

Jan 2018 – Apr 2020

### Bachelor's degree in Computer Engineering

**Rio de Janeiro State University**

Jan 2012 – Aug 2017

## ACHIEVEMENTS

***Cum Laude Honors*** **– Rio de Janeiro State University**
Academic honors awarded due to the high average grade.

## STRENGTHS & SKILLS

Full-stack Development
Software Engineering
Signal Processing | Machine Learning
Cloud Computing

C++ | Java | Python | JavaScript
Ruby | PHP | Lua | Git | Docker
Ruby on Rails | Nodejs | React
Tensorflow | SQL Databases
NoSQL Databases | OAuth
OpenID | AWS | Test automation
Agile development | Scrum

## LANGUAGES

**Portuguese**
**English**
**French**
**Spanish**

# EXPERIENCE

### Full-stack Developer & Mobile Developer

**Vista Group Network**

Jun 2014 – Apr 2016 Nova Friburgo, Brazil

- Developed a cloud-managed parking software using Android devices for ticketing and infringement monitoring.
- Developed an iOS and Android application for parking tickets purchase using Ionic and VB-Net.
- Created software to detect free parking spaces using image processing from surveillance cameras. The tool was developed using Python and Open-CV.

# PUBLICATIONS

## Journal Articles

- Gonçalves, G.I. et al. (2020). "Performance Evaluation of Energy Reconstruction Methods in High Energy Physics Experiments". In: *Revista Mundi Engenharia, Tecnologia e Gestão (ISSN: 2525-4782)* 5.2.

## Conference Proceedings

- Gonçalves, G.I. and ATLAS Tile Collaboration (2021). "Energy Reconstruction Techniques in TileCal under High Pile-up Conditions". In: *28th International Conference on Systems, Signals and Image Processing*, Slovakia.
- Gonçalves, G.I., B.S.M. Peralva, L.M. Andrade Filho, et al. (2020). "Performance of Energy Estimation Algorithms for the Tile Calorimeter of the ATLAS Experiment." In: *Anais do Congresso Brasileiro de Automática*. Brazil.
- – (2018). "Energy Estimation Based On Wiener-Hopf Filtering For The ATLAS Tile Calorimeter". In: *Anais do XXI Encontro Nacional de Modelagem Computacional*. Brazil.
- Gonçalves, G.I., B.S.M. Peralva, R.P. Marques, et al. (2017). "Classification Of The Masticatory Side Pattern Using Digital Image Processing". In: *Anais do XX Encontro Nacional de Modelagem Computacional*. Brazil.
- Gonçalves, G.I., W.R. Telles, et al. (2015). "Development Of An Application For Monitoring Real-Time Water Levels In The Bengalas River Based On Direct And Inverse Problems Technical". In: *Anais do XVIII Encontro Nacional de Modelagem Computacional*. Brazil.

# REFEREES

**Prof. Bernardo S. M. Peralva**
@ bernardo.peralva@gmail.com
Nova Friburgo, Brazil

**Dir. Paulo Morelli**
@ paulo@o2filmes.com
São Paulo, Brazil