GUILHERME GONÇALVES

Full-Stack Engineer

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EXPERIENCE

Technical Lead & Full-stack 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 **Rails + MongoDB + Node.js** and its Front-end using **React JS + Etherpad**, operating in a **cloud-driven** and **micro-services** architecture written with **Terraform** using **Docker** containers running on **Amazon ECS** clusters.
- Responsibilities included all development tasks (create code, test, automate deployments, etc.), training new developers, discussing the next A/B tests to be run, and listing/detailing/prioritizing the stories to be played.
- Implemented features such as multi-user tracking, data visualization with D3, notifications, importing, parsing and exporting files, advanced graphical interface features, etc.

Software Engineer & Scientific Researcher

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.

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**.

SKILLS

Back End

JavaScript | Ruby | NodeJS | Ruby on Rails | MongoDB | MySQL | Redis | Nginx | OAuth & OpenID

Front End

ReactJS | Redux | Angular | Webpack | D3 | TypeScript | SASS

DevOps

Docker | AWS | ECS | Terraform | Traefik | Kubernetes

Miscellaneous Skills

Test-Driven-Development | Git | C++, Java, Python, PHP, Lua | Android and iOS Development | Electron, Ionic and Expo | Agile development | Signal Processing | Machine Learning | Cloud Computing

EDUCATION

Ph.D., Computational Modelling

Rio de Janeiro State University

Mar 2021 – Ongoing

Master's degree, Computational Modelling

Rio de Janeiro State University

Jan 2018 – Apr 2020

Bachelor's degree, Computer Engineering

Rio de Janeiro State University

Jan 2012 – Aug 2017

LANGUAGES

Portuguese ●●●●●
English ●●●●●
French ●●●○○
Spanish ●○○○○

OPEN SOURCE CONTRIBUTIONS

Etherpad

A real-time collaborative editor for the web

https://github.com/ether/etherpad-lite/commits?author=ingoncalves

Athena

The ATLAS Experiment's main offline software

https://gitlab.cern.ch/atlas/athena/-/merge_requests?state=all&author_username=ginaciog

Scilab

Free and Open Source software for numerical computation

https://github.com/scilab/scilab/commits?author=ingoncalves

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

Joas Souza
@ joassouzasantos@gmail.com
São Paulo, Brazil

Luiza Pagliari
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São Paulo, Brazil

ACHIEVEMENTS

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