Alexandre Marangoni Costa
Software Engineer

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Short Bio

I've been a software engineer since **2010** and hacker since **2004**. I have a Master's degree in Computer Engineering, where I've researched Algorithms and Machine Learning and applied to meteorological and agribusiness data. Also, I built a framework for creating poker bots that learn as they play against each other. I founded 2 startups, worked for multiple others. Currently, I am leading the Ads team as a Staff Software Engineer at Firework.com.

My interests include **server-side applications**, **optimization**, **algorithms**, **machine learning**, **recruiting**, **mentoring**. I have professional experience in various technologies including Elixir, Phoenix, Erlang, Ruby, Rails, Linux, SQL, Redis, AWS ecosystem, Python and Javascript. I also have experience in other languages such as C, C#, Java, Lua.

Occupation

March 2019 – Present **Firework**, San Mateo - California

Staff Software Engineer from Aug 2022 until now

Lead the Ads team
Lead the Commerce Platform team
Mentor and review backend across all teams
Mentor and review all database changes
Grew backend team 3x, supporting hiring and onboarding

Lead and executed complete backend restructure to unblock long-term company strategy:
- Zero downtime, zero bugs, seamless transition
- No other team was affected and nobody had to adapt
- 80 short backwards compatible pull requests
- 5k+ lines 15k- lines in 5 months
- Finished before deadline and unblocked company plans successfully

Technical Lead from May 2021 until now

Review all backend work
Plan and execute refactors to scale up the backend
Hire and train new devs weekly
Mentor engineers on race condition, algorithm optimization, database optimization, advanced DB/Redis features

Senior Software Engineer from Feb 2019 until Aug 2022`

Solve and prevent downtimes
Wrote the first chat backend
Wrote distributed algorithms to allow up/down scale the cache system
Wrote stream pipelines to optimize RAM memory
Maintain the cache system, using Redis Cluster
Deleted more code than wrote
Optimized slow dashboards from 1 minute to few milliseconds
Detect and fix bottlenecks
Improve dev productivity with faster compilation from minutes to seconds
Improve dev productivity with 4x faster tests

February 2017 – March 2019 **Machine Learning R&D**, D2S, Rio de Janeiro

Company founded with former teachers to build projects using Ruby on Rails as backend, Python as a machine learning interface and Vue.js on the frontend. Alexandre was also responsible for database and server infrastructure.

December 2016 – July 2017 **Teacher**, Le Wagon, Rio de Janeiro

Le Wagon has been ranked as the best coding school in the world for the last 3 years. Alexandre was teacher at 2 bootcamps, where he understood and practiced different programming aspects, such as: databases, HTML/CSS, javascript and backend programming with Ruby on Rails. There is a photo of him teaching, on Slack's blog.

June 2015 – September 2016 **Chief of Technology Office**, Responde Aí, Rio de Janeiro

The challenge was growth and healthy scaling the product through Brazil: lead generation, segmentation, marketing strategy, marketing partnerships, online advertising and a lot of metrics. Besides leading a team, some of the technical challenges were: infrastructure scaling, heavy code refactoring and SQL query optimization.

January 2015 – June 2016 **Full Stack Web Developer**, LUZ Planilhas, Rio de Janeiro

Hired as a full stack web developer in a team of 3 devs, we developed an ecommerce platform, from the ground up. It was focused on digital goods (such as files), and the main concerns were: page speed, uptime, selling conversion, mail marketing integrations, analytics (metrics) generation.

November 2013 – January 2015 **Full Stack Engineer**, GoBooks, Rio de Janeiro

Alexandre got invited to this project when it was a shyly coded MVP. It was a poorly designed e-commerce, so he decided to rebuilt everything from scratch. His everyday work consisted of the classic web workflow: optimizing queries/requests, Test-Driven-Development, Amazon Web Services, bug tracking, HTML/CSS/JS frontend, etc. Also, he developed solutions for inventory control, product tracking, barcode handlers, payment methods.

July 2012 – July 2013 **Junior Developer**, Outra Coisa, Rio de Janeiro

Over the internship, he worked on the development of postozero.com, in which he had an every-day contact with technologies such as Git, Amazon Web Services, CoffeeScript and learned about leadership, project management and tracking, agile methodologies, and web services (API management).

Education

2008–2013 **Pontifical Catholic University of Rio de Janeiro, Brazil**

- Bachelor's degree on Computer Engineering
- Avg. grade: 8.2 / 10
- Teacher assistant on Calculus and Programming classes
- CNPq researcher on Computer Graphics, supported by the Math Dept.

2011–2012 **Institut supérieur de mécanique de Paris, France**

- Exchange student
- Industrial Engineering

2017–2019 **Pontifical Catholic University of Rio de Janeiro, Brazil**

- Master's degree on optimization and automated reasoning
- Avg. grade: 9.5 / 10
- Obtained the scholarship "Mestrado Nota 10", by FAPERJ, which was given to the 2 best students of the department
- Researched the application of data science in agribusiness and weather data
- Researched the application of machine learning to develop an automated poker player