

Flávio Sousa

Open Source • Software Engineering • Data Journalism

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Software Engineer at youview with five years of experience building distributed systems. Worked in early stage startups, hacking demos for investment rounds and whatever else was necessary. Worked as a freelancer and in medium sized companies, which has given me the opportunity to focus on good software development practices. I like to work on small, cross functional teams, where iteration is key and developers have ownership of features from requirements to production. I maintain a no profit, data journalism project that aims to bring transparency to the Portuguese driving license business, melhordazona.com. Also, I keep a personal blog where, not so regularly, I publish original content about numerical experimentalism, datajournal.co.uk. Msc. in Mechanical Engineering with research experience in Computational Fluid Dynamics and GPU programming.

Toolbox

AWS • Kafka • Clojure/ClojureScript • Datomic • SQL • NOSQL • Docker • Javascript/Node.js • Nginx/Lua/OpenResty • Kong • C/Cuda (GPUs) • Rails

Education

Msc. in Mechanical Engineering. Technical university of Lisbon, 2010. Final grade: A

WHITE PAPERS

- Simulation of surface fire fronts using firelib and GPUs, 2011. ([Link](#))
- Faster than real time stochastic fire spread simulations, 2011. ([Link](#))
- Numerical Investigations on the Inter-Career-Gap Flow for a Generic High Speed Train, 2011. ([Link](#))

AWARDS

- Came 2nd in the 2011 Msc. Category of the Fraunhofer Challenge. The contest is an academic competition that awards research with practical utility. [My project](#) was a mobile app that enabled fire-fighters to turn smart phones into fire simulators, by feeding data to models running in remote servers.
- ISCTE-IUL MIT Venture Competition (2011) – Semi-finalist. Contributed with fluid flow analysis of a high-altitude, floating wind turbine. The project was one of the 20 semi finalists in a startup pitch competition for a prize up to 1 million Euros.

PROFESSIONAL EXPERIENCE

Youview • Cloud Services Engineer • October 2018 - Present

Youview is the set top box provider for BT and Talk Talk. All the software running in the box and the cloud services is made in house. Currently it serves requests for 2.6 million boxes and apps and I worked on the team responsible for maintaining and writing new features for a set of microservices written in nodejs that deal with authenticating the requests.

Node.js • Clojure • Ruby • AWS

Funding Circle • Clojure Engineer • May 2017 - September 2018

Part of the in house software development team migrating a legacy Ruby platform, to a modern stack using Clojure and kafka. Worked in small cross functional teams able to deliver a feature from requirements to production. Engineers were also responsible for monitoring and reconciling both platforms.

Clojure • Kafka • Postgres • Docker • Ruby

Highlighted Achievements

Developed tooling for the Kafka ecosystem and helped speed up the development process.

Part of the team that successfully helped migrate the US Ruby stack to a Clojure/Kafka high throughput one.

The applications written for the US would later pave the way for other geographies servicing 3.4 billion £ in loans (official 2018 UK numbers).

Style.com • Senior Software Engineer • April 2015 - May 2017

Worked with a team of 30+ engineers and various contract partners developing a green field E-commerce marketplace for Condé Nast, that aggregated data feeds from several brands with artificial intelligence curation. Contributed with code and expertise to: Frontend/Backend, Integration with E-commerce engine (Hybris), Payment/Fraud detection providers, Rest API, Analytics (Google analytics/Tealium)

Clojure/ClojureScript • Docker • Datomic • Nginx/Lua/OpenResty • REST API

Highlighted Achievements

- Contributed to a massive rewrite of the code base from node.js to Clojure/Clojurescript.
- Participated in the development since day one of Conde Nast's E-commerce marketplace.
- Architected and implemented several key components of the infrastructure.

Muzzley • Contracting • August 2014 - January 2015

Muzzley was a mobile app that integrated several IOT devices in an easy to use UI. My role consisted in development and maintenance of core features in the backend infrastructure, using mainly node.js. Also worked on some integrations with cloud services such as weather stations.

Node.js • MongoDB • Redis • Internet of Things (IOT)

Highlighted Achievements

- Improved security of the backend infrastructure.
- Worked on core features of a production API which serves requests from mobile apps, with over 50k downloads.
- Integrated cloud services of a home weather station used by 100k users.

Minuscode • Contracting • March 2014 August 2014

Contracting under the brand name Minuscode as a full stack web developer. Was responsible for all stages of the projects from gathering requirements and presenting quotes, to development, deployment and infrastructure.

Ruby on Rails • Shopify • Javascript • Postgres • Heroku • Facebook Graph API • PayPal • E-Commerce

Highlighted Achievements

- Developed an e-store currently in production that sells [women focused fashion](#), with an innovative branding.
- Build a free voucher service that integrates with facebook and processes payments from advertises with PayPal.

CrowdProcess (Now James) • Application Developer • March 2013 - March 2014

One of the first employees of an early stage startup that was building a distributed computing platform with nodes made of web browsers. Research and Development of applications suitable to a distributed computing platform. Provided clients with support and documentation and worked with experts from several scientific fields: computer vision, neuroscience, bioinformatics, genetic algorithms and forest fire prediction.

Javascript • node.js • Postgres • C/C++ • Python • AWS

Highlighted Achievements

- Speaker in conferences and tech meetups.
- Published web applications that used a distributed computing platform made from thousands of web nodes.
- Deployed an experimental, genome sequencing alignment web tool in the Hospital of the University of Alabama.
- Developed a forest fire prediction software, based on original research.
- Worked with neuroscientists from the Champalimaud Centre for the Unknown in Computer Vision projects that used to the browser as a computing tool.

Technical University of Lisbon • Researcher • January 2010 - November 2012

Research and Development of computer applications used in forest fire prevention. CFD analyst on projects of a consortium of private companies and European universities. Management of CFD simulations in high performance computing clusters. Development in C and CUDA: parallel programming and code optimisation.

C • CUDA • Java • StarCCM+

Highlighted Achievements

- Successfully optimised a forest fire C library, speeding up the runtime 200 times.
- Co-authored two white papers, one about the implementation details and another about the mathematical model behind the forecast method.
- Finished second in a Fraunhofer Institute contest, awarding research with practical utility.
- Publish a conference paper on High Speed Trains.

ACTIVE SIDE PROJECTS

- Data Journal (Personal Blog) is a blog about numbers, modelling and software development in general. datajournal.co.uk
- Melhor da Zona (literally translates to “Best in the Area”) is a web app that lets you search the best driving schools in Portugal. The idea was born when I realised that the only metric available for comparing driving schools was the price, which created incentives for a race to the bottom, decreasing the instruction standard. The website was successful and acquired some notoriety after being featured in Portuguese, popular blogs: melhordazona.com