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* The wording used in this text was generated using OpenAI's ChatGPT.

PROFESSIONAL EXPERIENCE

Opção Virtual
Jan 2022 – Aug 2022
Data Engineer

I worked on a project aimed at analyzing customer behavior and predicting sales trends. I conducted experiments using Google Colab for efficient computation. I used Elixir and Ecto to extract data from Oracle databases and preprocessed it with Explorer, storing it in Parquet format for later analysis. For data preparation, I employed NVTabular and pandas, and I used fast.ai and PyTorch for optimizing machine learning models. I also created interactive visualizations using Vega-Lite in Livebook and Phoenix.

Technologies used: Elixir, Livebook, Ecto, Explorer, Phoenix, Vega-Lite, Oracle, Parquet, Python, PyTorch, fast.ai, NVTabular, pandas, Colab.

BairesDev
Aug 2020 – Mar 2021
Frontend Engineer

I led the frontend development of a customer-facing mortgage simulator and initiated the architecture for a frontend rewrite of an internal mortgage ERP SaaS for a US startup. My team and I worked remotely, conducting Scrum meetings in English across multiple time zones. I

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implemented the project using functional React and built the interface with Chakra UI. The application featured complex auto-save functionality, secure handling of customer-sensitive information and interactive charts with price calculations. I used Sketch and Figma for screen mockups, which were accessible through InVision. The frontend logic was generated from TypeScript files that modeled the business classes from the C# backend and was documented using Storybook. I also built the applications with full support for dark and light themes and included unit tests using Jest and integration tests with Cypress. For state management, I used Recoil.js and for data fetching I used SWR and Axios. Finally, I organized frontend applications and packages using Lerna in a company-wide monorepo.

Technologies used: TypeScript, React, Recoil.js, Chakra UI, airbnb/visx, d3, Jest, Cypress, InVision, Storybook, Lerna, Scrum, REST, JWT, ASP.NET Core, C#, BitBucket, NSwag, Git.

BTG Pactual
May 2020 – Jul 2020
Software Engineer

I worked in the credit risk unit developing the trading system that emits loans requested by customers of the bank. I helped rewriting the cash flow generator algorithm in the frontend to support a new type of amortization schedule and developed a bulk data ingestion from an Excel template. I also helped write new e2e testing algorithms for the backend architecture using xUnit and InMemory features of the MassTransit (RabbitMQ) library. The backend stored data in SQL Server with NHibernate and used PostgreSQL, providing data through OData and JSON, consumed by the frontend with DevExpress components. I worked remotely following the Scrum methodology and the CI pipeline was already configured.

Technologies used: Angular, ASP.NET Core, AWS, Azure DevOps, C#, CQRS, DDD, DevExpress, Git, NgRx, NHibernate, OData, PostgreSQL, RabbitMQ, Scrum, SQL Server, TypeScript.

HBSIS / Ambev
Nov 2016 – Aug 2018
Senior Software Architect

Developed the architecture of Ambev's vehicle fleet manager for the distribution units nationally, the project was a rewrite of an old application that was not supporting the number of simultaneous requests in the morning and late afternoon. I was responsible for the back-end and the DevOps pipelines, which included Docker cluster configuration and monitoring, hosted on-premises with Ambev's private cloud

partner. The architecture lacked elasticity, so we focused on lifecycle management to make sure there were simultaneous clusters of different projects working with proper environment separation. The scripts were initially written in bash, but were later restructured into a Node.js CLI project that interacted with the Docker API through HTTP async requests. The CLI was used on developer machines and by Jenkins to easily deploy the application between different Docker clusters.

Technologies used: Docker, Linux, C#, ASP.NET Core, Entity Framework Core, PostgreSQL, TypeScript, Angular, Node.js, CQRS, DDD, Jenkins DSL, Git, Grafana, Prometheus, Scrum.

Evolucional

Jun 2016 – Nov 2016

Senior Software Engineer

As a full-stack engineer, I worked on the core product of the company, which was a simulation test platform for students predicting their grades in the national university admission exam (ENEM). I participated in both the front and backend, including the UI for students to take the test and the business logic that rated their grades using the item response theory mathematical model. I also worked on a small application that parsed scanned images of tests. I followed the Scrum methodology and collaborated with a talented team of frontend designers, hosted on AWS EC2 instances, and stored images on S3. The algorithms for extracting data were implemented in ASP.NET MVC services, with calculation results cached inside Redis for fast reporting.

Technologies used: C#, Entity Framework, SQL Server, Redis, JavaScript, AngularJS, HTML, CSS, AWS.

ESX

Jan 2016 – Jun 2016

Mobile Engineer

As part of a three-developer team, I developed a mobile app from scratch to production for a large health insurance company. The app provided customers with access to their current plan, support tickets, doctor appointment locations, monthly bills, and more. It had internal authentication and Facebook login support. I was involved in both the front and backend, and we published the app on both the Play and Apple stores. I participated in on-site Scrum meetings, including planning, retrospective, and review meetings with the client, who served as the product owner. The backend was an ASP.NET MVC application serving as a REST API for the mobile app, connecting to a SQL Server database populated by another large project. The frontend was built using AngularJS v1 for structure and OnsenUI with SASS for compo-

nents, with Apache Cordova wrapping the JS code for responsivity.

Technologies used: JavaScript, Apache Cordova, AngularJS, HTML, CSS, C#, ASP.NET MVC, Entity Framework, SQL Server, BDD, Git, OnsenUI, SASS, Scrum.

Opção Virtual
Apr 2012 – Dec 2015
Senior Software Architect

During the first six months, I developed a native Android app for point-of-sale, integrating with their main ERP product. The backend was written in Java and shared business code with the Android app. I also worked on the ERP solution, focusing on architecture and DevOps. I implemented Git company-wide and guided the team until they became comfortable with it. I also implemented Scrum methodologies and set up Jira for the team. The ERP was a large desktop application used by hundreds of companies, sharing code between Delphi and C#, presenting important challenges for continuous integration, including updating binaries for all customers. I developed a solution to automatically update the product for each customer, tracking versions for diagnosis.

Technologies used: Android, C#, Continuous Integration, Delphi, DevExpress, Git, Java, Jira, Maven, Oracle, SVN.

H7 Tecnologia da Informação
Aug 2011 – Apr 2012
Software Engineer

I worked mainly on backend development for websites using PHP and Zend Framework. The websites ranged from single-page applications to full-fledged systems with custom administration tools, serving existing ERP customers. With designers prototyping the layouts in Photoshop, my front-end focus was on translating the images into a structure compatible with the backend endpoints.

Technologies used: CSS, HTML, JavaScript, jQuery, MySQL, PHP, SQLite, SVN, Visual Basic.

HE Sistemas Empresariais
Dec 2010 – Jun 2011
Software Engineer

I developed a website for one of the company's ERP customers that integrated with the ERP through REST APIs, synchronizing product information such as prices and images. I also fixed issues in the ERP written in Visual Basic and in a Windows Phone point-of-sale app written in C#.

Technologies used: JavaScript, jQuery, HTML, CSS, MySQL, PHP,

SQLite, SVN, Visual Basic, C#.

Interactive Studio Web
Aug 2007 – Mar 2008
Web Developer

I developed the backend in PHP for Flash websites and some of the ActionScript code of the frontend. The websites were highly interactive and animated and the clients ranged from furniture stores to country music singers.

Technologies used: ActionScript, Flash, PHP.

INDEPENDENT EXPERIENCE

Spiral Wasm Template
May 2022 – Jan 2023
https://github.com/fc1943s/tictactoe/blob/main/lib_spi/client/client.rs

Working on a template that uses Rust to build a high-performance web-based platform.

Technologies used: Spiral, F#, Fable, Rust, Dominator, WebAssembly, Playwright, Bun, Vite.

Mecha Haze
Aug 2018 – Apr 2020
https://github.com/fc1943s/mechahaze

On the project I had the opportunity to apply new technologies such as functional programming and learn the basics of deep learning. The project was written in F#, except for the neural network code which was written in Python. The end result was a video representation of any BPM-based song, with fully customizable parameters such as shapes and colors linked to features like volume, pitch, notes, and melodies. The neural network was retrained using transfer learning with a custom dataset from music producer friends. Each layer of the songs (drums, synthesizers, and vocals) were trained separately and transformed into metadata for real-time rendering.

The application was designed to work in real-time, with three microservices working together - an audio listener daemon that listens to the device's global audio output, a backend that receives commands from the frontend and updates the cluster state using RabbitMQ messages, and a feature dispatcher daemon that renders the visual representation of the detected song in Resolume Arena. The frontend was written in React and F# and used Elmish, a pattern similar to Redux, to manage the shared state. Communication between the frontend

and backend was through WebSockets, where the frontend receives the current song position in milliseconds. Every audio layer could be connected to sound features interactively using a component called react-diagrams. The frontend was built to run on browsers and could be built using Electron for optimizations.

Technologies used: F#, RabbitMQ, React, Bulma, LMDB, OSC, peaks.js, plotly.js, Python, PyTorch, Resolume Arena, Git.

Freelance Web Development
Mar 2008 – Nov 2012

I worked as a freelance web developer, where I mostly developed the backend and frontend of websites that were already designed by a friend. I also worked directly with clients on the design and prototyping of a few websites.

Technologies used: CSS, HTML, JavaScript, jQuery, MySQL, PHP, SQLite, Zend Framework.

COURSES & TRAININGS

Fast.ai
Practical Deep Learning for Coders (v1, v2, v3), 2019

Coursera
Learning How to Learn, 2019
Mindshift, 2019

EDUCATION

Anhanguera Educacional
Bachelor's Degree in Information Systems, 2014