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PROFESSIONAL EXPERIENCE

Opção Virtual
Jan 2022 – Aug 2022
Data Engineer

- Worked on a project aimed at analyzing customer behavior and predicting sales trends.

- Used Elixir and Ecto to extract data from Oracle databases and preprocessed it with Explorer, storing it in Parquet format for speedy analysis.

- Utilized fast.ai and PyTorch for optimizing deep learning models.

- Employed pandas and NVTabular for data preparation.

- Conducted experiments using Google Colab for GPU computation.

- Created interactive visualizations using Vega-Lite in Livebook and Phoenix.

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

 BairesDev
Aug 2020 – Mar 2021
Frontend Engineer

- 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.

- Collaborated with a remote team across multiple time zones, conducting Scrum meetings in English.

- Implemented the project using functional React and developed the interface with Chakra UI. The components were documented with Storybook for clear and interactive visualization.

- Ensured the application featured auto-save functionality, secure handling of customer-sensitive information, and interactive charts with price calculations.

- The designers used Sketch and Figma for creating screen mockups, making them accessible through InVision.

- Automated the generation of TypeScript files from C# business classes for the frontend logic.

- Built the applications with full support for dark and light themes, including unit tests with Jest and integration tests with Cypress.

- Employed Recoil.js for state management and used SWR and Axios for data fetching.

- Organized the frontend packages using Lerna in a company-wide monorepo.

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Technologies used: TypeScript, React, Chakra UI, Recoil.js, visx, d3, Jest, Cypress, InVision, Storybook, Lerna, JWT, C#, NSwag.

 BTG Pactual

May 2020 – Jul 2020

Software Engineer

- Worked in the credit risk unit on the development of a trading system for emitting loans requested by bank customers.

- Contributed to rewriting the cash flow generator algorithm in the frontend to support a new type of amortization schedule. Also developed a method for bulk data ingestion from an Excel template.

- Assisted in writing new end-to-end testing algorithms for the backend architecture using xUnit and the InMemory features of the MassTransit (RabbitMQ) library.

- Storage solutions used SQL Server with NHibernate and PostgreSQL for data provision through OData and JSON, consumed by the frontend with DevExpress components.

- Worked remotely, adhering to the Scrum methodology.

Technologies used: TypeScript, Angular, AWS, Azure, C#, SQL Server, CQRS, DevExpress, NgRx, PostgreSQL, RabbitMQ.

 HBSIS / Ambev

Nov 2016 – Aug 2018

Senior Software Architect

- Developed the architecture for Ambev's vehicle fleet manager, aimed at improving request handling capacity during peak morning and late afternoon times for distribution units nationally, entailing in a rewrite of an older application to enhance performance.

- Took responsibility for the back-end and DevOps pipelines, focusing on Docker cluster configuration and monitoring. These were hosted on-premises in collaboration with Ambev's private infrastructure partner.

- Addressed the architecture's lack of elasticity by concentrating on lifecycle management, ensuring proper environment separation and simultaneous operation of clusters for different projects.

- Initiated with scripts written in bash, later transitioning to a more structured approach by developing a Node.js CLI project. These tools facilitated interaction with the Docker and Jenkins APIs through HTTP async requests, enhancing deployment processes.

Technologies used: C#, PostgreSQL, On-prem DevOps, Grafana, Prometheus, Jenkins, TypeScript, Angular, Node.js.

 Evolucional

Jun 2016 – Nov 2016

Senior Software Engineer

- Served as an engineer on the company's core product, a simulation test platform for students to predict their grades in the national university admission exam (ENEM).

- Engaged in the development of both frontend and backend components, including the user interface for student assessments and the implementation of business logic using the item response theory (IRT) mathematical model.

- Developed a specialized application for parsing scanned images of tests, enhancing the platform's functionality.

- Adhered to the Scrum methodology within a collaborative environment, working closely with a team of frontend designers and DBAs.

- Hosting used AWS EC2 instances with S3 for image storage, optimizing resource utilization and data management.

- Implemented data extraction algorithms in ASP.NET services, with calculation results efficiently cached in Redis to ensure rapid reporting capabilities.

Technologies used: C#, SQL Server, Redis, JavaScript, Angular, AWS.

 ESX

Jan 2016 – Jun 2016

Mobile Engineer

- Collaborated as part of a three-developer team to develop and launch a mobile app for a large health insurance company, covering the entire development lifecycle from concept to production.

- The app offered customers access to their current plan, support tickets, doctor appointment locations, monthly bills, among other features.

- Integrated internal authentication mechanisms and Facebook login support.

- Played a key role in both frontend and backend development, contributing to the app's availability on both the Play Store and Apple Store.

- Traveled for on-site Scrum meetings, including planning, retrospective, and review sessions with the client, who acted as the product owner.

- The backend was developed as an ASP.NET application, functioning as a REST API for the mobile app and interfacing with a SQL Server database linked to another extensive project.

- Frontend development utilized Angular for structural framework and OnsenUI with SASS for component design, with Apache Cordova employed to wrap the JavaScript code, ensuring app responsiveness across devices.

Technologies used: JavaScript, Cordova, Angular, C#, SQL Server, BDD, OnsenUI.

 Opção Virtual
Apr 2012 – Dec 2015
Senior Software Architect

- Contributed mainly to the ERP solution, with a focus on refining coding standards and reuse across all screens and calculation routines.

- Led the company-wide implementation of Git, providing training and support to ensure the team's proficiency and comfort with the version control system.

- Introduced and implemented Scrum methodologies to improve project management and collaboration, further integrating Jira for enhanced team coordination and task tracking.

- Addressed the challenges of continuous integration for the desktop ERP application, which involved sharing code between Delphi and C# and required sophisticated solutions for updating binaries across all customer installations.

- Engineered an automated update mechanism for the products, ensuring efficient version tracking and diagnosis for each customer, significantly reducing manual oversight.

Technologies used: Delphi, DevExpress, Oracle, On-prem DevOps.

 H7 Tecnologia da Informação
Aug 2011 – Apr 2012
Software Engineer

- Specialized in development for a variety of websites, utilizing PHP and Zend Framework. The projects spanned from single-page applications to comprehensive systems equipped with custom administration tools, aimed at enhancing the experience for existing ERP customers.

- Collaborated closely with designers who prototyped website layouts in Photoshop, focusing on translating these designs into structures compatible for integration between frontend and backend functionalities.

Technologies used: PHP, SQLite, JavaScript, VB, MySQL.

 HE Sistemas Empresariais
Dec 2010 – Jun 2011
Software Engineer

- Developed a website for an ERP customer, achieving seamless integration with the ERP system through REST APIs. This integration facilitated the synchronization of essential product information, including prices and images.

- Addressed and resolved issues within the ERP system, which was written in Visual Basic.

- Contributed to the maintenance of a Windows Phone point-of-sale application written in C#.

Technologies used: VB, MySQL, PHP, SQLite, JavaScript, C#.

    < br /> **Interactive Studio Web**

Aug 2007 – Mar 2008

Web Developer

- Developed the backend in PHP for highly immersive and interactive Flash websites.

- Contributed to the frontend by writing ActionScript code, enhancing user engagement through sophisticated animations.

Technologies used: PHP, ActionScript, Flash.

INDEPENDENT EXPERIENCE

i574n

Sep 2022 – Present

<https://github.com/i574n>

- Led architectural efforts for a polyglot programming approach, embracing literate programming principles and leveraging Spiral in a unified compilation pipeline for software engineering innovations.

- Integrated functional programming with modern software development techniques, focusing on cross-platform, cross-language compatibility, including F# and Rust compilation.

- Published smart contracts with Spiral on blockchain platforms like NEAR Protocol, showcasing the language's readiness for market immersion.

- Implemented web frontends based on Spiral and Rust WebAssembly libraries like Leptos, highlighting cross-language compilation capabilities.

- Spearheaded educational initiatives with comprehensive documentation, tutorials, and real-world test cases for Spiral, including complex physics simulations and domain modeling utilizing recursive discriminated union relationships.

- Forked and contributed to significant open-source projects such as the Fable compiler, .NET Interactive, .NET REPL, and the Spiral compiler itself, demonstrating a commitment to advancing software development tools and languages.

Technologies used: F#, Spiral, Rust, PowerShell, Jupyter, NEAR Protocol, Leptos, WebAssembly, Tailwind, Playwright.

    < br /> **Mecha Haze**

Aug 2018 – Apr 2020

<https://github.com/fc1943s/mechahaze>

- Utilized functional programming with F# for the project's main development, with the neural network component coded in Python with the Open-Unmix library.

- Achieved a video representation output for BPM-based songs, featuring fully customizable visual parameters such as shapes and colors that respond to music features like volume, pitch, notes, and melodies.

- Employed transfer learning to retrain the neural network, utilizing a custom dataset provided by music producer colleagues. This approach facilitated the separate training of each song layer (drums, synthesizers, vocals) and their transformation into metadata for real-time rendering.

- Designed the application for real-time operation through the integration of three microservices: an audio listener daemon for device-wide audio output monitoring, a backend for command reception and cluster state updates via RabbitMQ messages, and a feature dispatcher daemon for the visual rendering of songs in Resolume Arena using OSC.

- Developed the frontend using React and F#, implementing Elmish — a pattern akin to Redux — for state management. Ensured communication between frontend and backend via WebSockets, enabling live updates of song positions. Every audio layer connected interactively with sound features through a react-diagrams component.

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

    < br /> **Freelance Web Development**

Mar 2008 – Nov 2012

- Served as a freelance web developer, specializing in the implementation of both backend and frontend components for websites designed by a professional colleague.

- Engaged directly with clients in the design and prototyping phases for a select number of websites, showcasing versatility in both technical development and client interaction.

Technologies used: PHP, Zend, MySQL, SQLite, JavaScript.

EDUCATION

Anhanguera Educacional
Bachelor's Degree in Information Systems, 2014