Gaio Santos

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Education

University of Toronto **Sep 2022 – Present**
BASc Computer Engineering – Minors in Artificial Intelligence and Business *Toronto, ON*
- U of T Engineering International Scholar Award with a value of **$100,000** – (2022)
- Courses: Algorithms and Data Structures, Operating Systems, Software Communication and Design, Programming Fundamentals, Computer Architecture, Probability and Applications, Digital Systems, Linear Algebra, Calculus

Work Experience

BTG Pactual **May 2024 – Aug 2024**
IT Analyst *Sao Paulo, Brazil*
- Developed **10+** dynamic pages and components in a **micro-frontend** architecture using **TypeScript** and **React**, enhancing the Wealth Management platform's **UX** and enabling bankers to create custom templates.
- Designed dynamic tables and graphs using the **Syncfusion library** and **RESTful APIs** to visualize key portfolio metrics such as asset classification and capital distribution, contributing to an **80%** increase in users from 2023 to 2024
- Architected a global notification system leveraging **React Context API** and **Flux architecture** to enforce multi-component validations, ensuring all steps are completed before allowing user progression, reducing workflow interruptions by **65%**.

ABIX Tecnologia LTDA **May 2023 – Aug 2023**
Software Engineering Intern *Remote*
- Developed reusable frontend components with **JavaScript** and **Next.js** for an internal platform, enabling efficient tracking of contracts, warehouse inventory, rentals, sales, and equipment IDs.
- Integrated real-time data display in lists and graphs through **HTTP requests** using **Ky**, optimizing API call retries and error handling, enhancing usability for employees.
- Tested API endpoints with **Postman** to ensure proper functionality and data flow, and **GitLab** for managing merge requests, code reviews, and **CI/CD pipelines**, ensuring smooth collaboration and improving system reliability.

Projects

NaviWeather GIS | *C++*
- Developed a GIS application in **C++** that visualizes key data on major cities, enhancing city-specific data accessibility and user experience.
- Designed and implemented an **A*** search algorithm to optimize navigation routes, achieving an **82%** improvement in efficiency over traditional **Dijkstra's algorithm**
- Integrated the **OpenWeatherAPI** to provide real-time weather updates within city zones, maintaining a rapid response time of **251 ms** for improved user interactivity.
- Integrated the **OpenStreetMap API** to retrieve real-world geospatial data, including city layouts, streets, and natural features, enhancing the accuracy and detail of GIS visualizations.

Currency Converter | *Typescript, Python*
- Created a full-stack currency converter platform with frontend built using **TypeScript**, **React**, and **Tailwind CSS**, building an intuitive user interface for real-time exchange rate conversion.
- Developed the backend using **Python** and **Flask** to power API endpoints, facilitating data integration with a **PostgreSQL** database.
- **Automated** daily data updates using custom Python **scripts** and the **pandas** library to fetch, parse, and insert exchange rates, maintaining up-to-date currency information.
- Deployed the application using modern CI/CD workflows: the frontend on Vercel and the backend on Render using **Docker** containers.

Technical Skills

Languages/Frameworks: TypeScript, JavaScript, Python, C, C++, Assembly, Verilog RTL

Web: React.js, Next.js, Flask, HTML, CSS, TailwindCSS, Docker, PostgreSQL, MySQL, pandas, RESTful APIs

Software Tools: Git, GitLab, Postman, Azure DevOps Services, Render, Vercel, Jira, Quartus, Linux, MATLAB