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

Work Experience

BTG Pactual **May 2024 – Aug 2024**

IT Analyst *Sao Paulo, Brazil*

- Developed 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.
- Built a notification system with React Context API and integrated it with Flux architecture, providing real-time feedback on actions like asset updates and preventing user progression in error scenarios.
- Designed interactive tables and graphs with Syncfusion, visualizing key portfolio data such as asset classifications, country distributions, and Moody's ratings, improving data accessibility.
- Optimized data flow through HTTP requests and utilized Formik for efficient user input handling, ensuring accurate updates for client templates and reviews.

ABIX Tecnologia LTDA **May 2023 – Aug 2023**

Software Engineer 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, enhancing usability for employees.
- Tested API endpoints with **Postman** to ensure proper functionality and data flow, improving system reliability.
- Designed and implemented PDF generation logic, enabling seamless data export for user reports.

Projects

Parkour Game | *C*

- Designed and developed a competitive 2-player game in C on an FPGA using a DE1-SoC board with VGA display, featuring split-screen gameplay, obstacle challenges, and real-time interaction.
- Implemented double buffering for smooth frame transitions on VGA, optimizing performance for lag-free gameplay.
- Enabled player controls through PS/2 inputs (arrow keys and WASD) with interrupt handling, ensuring seamless real-time input response.
- Integrated dynamic audio and image arrays that respond to player actions, enhancing the overall gaming experience.

2-D Collision Simulator | *C++*

- Designed and implemented a 2-D collision simulator in C++ using SFML for graphical rendering, window management, and user input, showcasing proficiency in object-oriented programming (OOP).
- Developed reusable object-oriented classes, such as Ball and Button, to manage properties and behaviors of on-screen objects, ensuring modularity and maintainability.
- Simulated real-time 2D physics with algorithms for elastic collisions, velocity updates, and motion handling between moving objects.

Technical Skills

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

Web: React.js, Next.js, HTML, CSS, RESTful APIs

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