LUCAS BARBOSA

ENGINEERING (HONOURS) AND COMPUTER SCIENCE

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ABOUT ME

Technical Skills	React, Redux, Nodejs, Typescript, C/C++, MongoDB, Postgres, Python, PHP, DevOps
Languages	Fluent in English and Portuguese
Interests	Finance, Cinematography, Surfing, Design, Poker, Tennis

WORK EXPERIENCE

Full Stack Software Developer

Progue Chartered Accountants Pty Ltd   Sydney, NSW (July 2021 - April 2022)

- Automated manual micro-services to optimize tax accountancy workflow, reducing the amount of non-billable hours.
- Built a platform using the MERN stack (with TypeScript) to create an ecosystem for cutting-edge productivity applications tailored to the business and deployed to a VPS with a CI/CD pipeline.
- Parsed the XML of 800+ page word documents into a MongoDB database for fast text-based search and PDF export features.

Frontend and Product Developer

Cercle   Sydney, NSW (August 2021 - April 2022)

- Built a QR Scanner web app based on Figma User flow diagrams with React and Redux to work with a Flask backend. Deployed the web app to the internet using AWS EC2.
- Conducted User tests in person by approaching customers at a Cafe who showed interest, collecting their feedback systematically.
- Worked on conceptualising new ideas for future iterations of the product in a highly collaborative startup environment.

Additional Experience   Sydney, NSW (2017 — 2021)

- Cocktail Bartender (Bella Vista Hotel, Bella Vista)
- Bartender (The Marsden Brewery, Marsden Park)
- Beverage Attendant (Reading Cinemas, Rouse Hill)
- Sales Representative (Apex Alliance, Sydney)
- Sales and Shop Assistant (Surf Dive n Ski, Castle Hill)
- Private Tutor (Hills District and Broader Sydney)

EDUCATION

University of New South Wales   Sydney, NSW (2019–Present)

- Engineering Honours (Mechatronic)
- Computer Science (Artificial Intelligence)

PERSONAL PROJECTS

Summer   Personal AI Assistant

- Applies Boltzmann's Entropy formula over multiple social signals (calendar events, to-do lists etc.) to estimate weekly and monthly levels of disorder/anxiety.
- Uses GraphQL to collect data from 6+ APIs and model them into micro-states as input to the above algorithm.
- Data is normalised and cleaned with Pandas from a Flask server with a process manager.

Moose   Crypto Trading Algorithm

- Fetches real-time crypto pricing data from the Binance Exchange with asynchronous Web sockets into a SQLite database. Data is cleaned with Pandas.
- Applied indicators (e.g. MACD, Vortex etc.) with other quantitative trading strategies to execute real-time market orders from a Python server.
- Built a CI/CD pipeline that backtests the algorithm against large historical datasets to maximise alpha and efficiency before live deployment.