Tom Barthelmeh

Full Stack Software Engineer

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github.com/barthelmeh

Professional Experience

Full Stack Engineer, Couchdrop
Christchurch • November 2024 — Present

- Developed a custom parser and interpreter for a domain-specific language (DSL) to enhance search/filter capabilities in audit logs.
- Integrated AS2 protocol to facilitate secure EDI document exchange to cloud/SFTP endpoints
- Designed and built scenario-based onboarding workflows, boosting user activation and platform engagement.
- Worked on a complete UI overhaul on 80+ pages.

Tutor, University of Canterbury
Christchurch • February 2024 — November 2024

Tutored 2 courses during my honours year which included:
- *Web Computing Architecture* - Guided students through developing a REST API using **ExpressJS** and a front-end with **React** and **TypeScript**.
- *Software Engineering Project Workshop* - Guided teams through Agile Scrum methodologies, SDLC phases, and version control workflows.

Software Engineer Intern, Cavotec
Christchurch • November 2022 — February 2024

- Developed an Automated Factory Acceptance Testing application using **Django**, **TailwindCSS**, and **JavaScript** which allowed operators to run automated factory acceptance tests through a web interface, saving time.
- Developed custom machine learning models trained on hand-annotated data to detect and provide feedback on obstructions on a ship's hull with **>90%** accuracy. This project used **OpenCV**, **YOLOv8**, **Tensorflow**, and **OPC UA**.
- Migrated their internal website to use **React**, **TailwindCSS**, and **PHP** as a backend.

Education

University of Canterbury
February 2021 — November 2024
BE(Hons) in Software Engineering
First Class Honours (7.26 GPA)

Technical Strengths

- Python
- JavaScript
- ReactJS
- TypeScript
- Redis
- SQL
- Java

References

Dr Etienne Borde, UC
Senior Lecturer Above the Bar
etienne.borde@canterbury.ac.nz
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Patrick Browne, Cavotec
New Product Development Lead
patrick.browne@cavotec.com
027 934 2543

Projects

Portfolio Website - *barthelmeh.info*

Biophilia Visualiser
A mobile application built with **React Native** for *Scion* to display a participants stress levels.
- Frontend used **React Native** with **Expo**.
- Built a backend using **ExpressJS** with **a MicrosoftSQL Azure** database.
- Developed 3D graphics to display participants stress levels using ThreeJS.
- Included administrative functionality for *Scion* to handle users and upload participant data.

Slack Review Bot
I noticed issues with our scrum team's time-to-review; so I created a bot that integrates with Slack to randomly generate reviewers and tag them.
- Built using SlackCLI and **TypeScript**
- Internally tested, drastically improving our time-to-review.

Saffron
A trustless secure escrow service run on the SecretNetwork blockchain to allow users to trade digital assets safely.
- Built with **Rust**
- Prize winner at **HackSecret 4**.