Guillaume Portalier

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SKILLS

Programming Languages: JavaScript / TypeScript, Python, SQL (PostgreSQL, SQLite), HTML, CSS
Technologies: React, React Native, Expo, Nodejs, Express, RESTful API, FastAPI, Pytest, Jest, Babel, ESLint, Git

PROJECTS

Chalkr, iOS climbing tracker (GitHub)
Developed a local-first iOS mobile application designed for climbers to log, track, and analyse workout sessions.
Addressed the need for detailed personal performance monitoring without requiring constant connectivity.

- Implemented offline-first data storage and management using SQLite and Drizzle ORM, allowing users to record detailed route data, attempts, and photo documentation.
- Built features for workout data visualisation, analytics, and progress tracking directly within the app.
- **Technologies:** React Native, Expo, SQLite, Drizzle ORM, NativeWind, Firebase (for Auth/potential sync), Jest

Velock, Santander Bike availability tracker (GitHub)
Built a full-stack web application for quickly finding available Santander Cycles or empty docking spaces in London and organise frequently used stations into personalised lists.

- Integrated real-time data retrieval from the official TfL API to provide users with up-to-the-minute bike and space availability.
- Developed user features including management of preferred docking station lists and
- Implemented secure user authentication using JWT.
- **Technologies:** React, Node.js, Express, PostgreSQL, Prisma ORM, Tailwind CSS, JWT Auth, RESTful API

WORK EXPERIENCE

Senior Transport Modeller, Arup   *Apr 2018 - Sept 2024*
- Optimised traffic modelling workflows by developing Python scripts that automates data transfer, model execution, and outputs management, eliminating user input errors, leading to higher quality models and faster project turnaround.
- Developed the data interface and an early prototype of a web application designed to inform net-zero strategies. This involved designing the connection between complex traffic microsimulation outputs and front-end visualisation tools, enabling stakeholders to effectively analyse policy impacts on carbon reduction.
- Enhanced model output analysis by developing and implementing an SQL database workflow to process results, replacing previous manual, Excel-based methods. This initiative enabled standardised reporting, improved output versioning, and significantly streamlined the comparison between model iterations.

Assistant Transport Modeller, Systra Ltd.   Oct *2016 - Apr 2018*
- Developed, calibrated and validated microsimulation and junction models for projects under Transport for London's jurisdiction. Ensured models adhered to TfL audit standards, resulting in approved models for scheme impact analysis.
- Managed the end-to-end process of traffic survey, signal data collection and subsequent analysis required for transport modeling projects. Communicated findings through clear reporting to clients and provided robust data inputs for accurate model calibration and project analysis.

EDUCATION

Master of Science - MSc Transport Planning and Engineering, Newcastle University, Newcastle, UK   *2015 - 2016*
- Focus areas: Transport planning, travel demand forecasting, data collection and analysis

Master of Science - MSc, Civil Engineering, Ecole Spéciale des Travaux Publics, Paris, France   *2013 - 2016*
- Focus areas: Digital tools and modelling, sustainable infrastructures, urban planning and transportation: