

# Tom Carruthers

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**Fullstack Developer - Portfolio:** [tomcarruthers.com](https://tomcarruthers.com) **Github:** [github.com/Cedarche](https://github.com/Cedarche)

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An enthusiastic developer with 4+ years of experience designing, developing, and managing fullstack applications and internal tools. Specializing in HTML, CSS, Javascript/Typescript, and Python and utilizing third-party libraries like React, React Native, Node.js, and NextJS. Strong experience working with AWS, GCP, and Firebase.

## WORK EXPERIENCE

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### inGauge Energy

June 2019 – October 2024

*Mechanical & Software Engineer*

*Brisbane, QLD*

- **Applied technical expertise and project management capabilities** to develop mobile and web applications using React and React Native to meet client requirements. Managed deployments using AWS and GCP, ensuring scalable and secure solutions. Coordinated with cross-functional teams and project timelines to deliver on time and within budget.
- **Created a custom QR code asset-tracking mobile application** using React Native and Firebase, which enabled a client to accurately record the location and installation conditions of all components within a compressor station. This solution streamlined asset management and decommissioning processes, saving the client tens of thousands of dollars.
- **Developed Snap Park**, a parking management system using React/React Native and GCP, to notify employees when the office parking lot becomes full. Further developed the application to a viable SaaS product that's still in use today (snappark.co).
- **Developed and deployed a leak detection and water level monitoring system** using a custom ESP32 sensor unit, C++, Node.js and AWS IoT Core, and the SWARM satellite network. The system provided real-time data visualization and alerts through a web dashboard built with React, and generated daily PDF reports to ensure compliance with regulatory conditions.
- **Engineered a predictive flood modeling tool** using Python to synthesize 130 years of hourly rainfall data for a prospective exploration well location, integrating the results into QGIS for civil construction planning. The tool's visualization capabilities supported strategic decision-making in remote areas prone to flooding.

### JPC Engineering

January 2018 – May 2019

*Mechanical Engineering Intern*

*Toowoomba, QLD*

- Designed custom mechanical components (brackets, hangers, plates) using SolidWorks and produced technical drawings to Australian standards. Gained experience in mechanical prototyping, 3D modeling, and manufacturing processes.
- Assisted in mechanical assembly, fabrication, and installation of industrial machinery.

## EDUCATION

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### University of Queensland

Graduated June, 2019

*Bachelor of Mechanical Engineering (Honors)*

*Brisbane, QLD*

- Attended St John's College and played rugby union & tennis for the first two years of my university education. Received a High Distinction for my Honors thesis on the feasibility of using renewable technologies to power Ethereum mining.

## SKILLS

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|---------------------------------|--|---------------------------------|
| ▪ HTML/CSS/TailwindCSS          | ▪ AWS (EC2, ELB, Lambda, S3, API Gateway, IoT Core etc.) | ▪ Version control (Git, Github) |
| ▪ Javascript/Typescript         | ▪ GCP (Storage, Cloud Compute)                           | ▪ QGIS                          |
| ▪ React Native                  | ▪ Firebase (Auth, Firestore, Hosting, etc.)              | ▪ Autocad/Fusion 360/Solidworks |
| ▪ React (Vite, Next.js)         | ▪ PostgreSQL   | ▪ EDA/PCB Design                |
| ▪ Node.js (ExpressJS)           |  | ▪ Microsoft Office              |
| ▪ Python (Flask, pandas, numpy) |  | ▪ Contractor relationships      |

## PERSONAL PROJECTS

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I have built a series of both personal and commercial software projects over the years, using React/React Native/Node.js/Python that I go into in much further detail on my portfolio site: [tomcarruthers.com/projects](https://tomcarruthers.com/projects)

• Snap Park: ([snappark.co](https://snappark.co)) • Ream Digital Receipts ([reamreceipts.com](https://reamreceipts.com)) • CrossCopy ([crosscopy.dev](https://crosscopy.dev)) • Assetrix • Stellarmetrics