Mitchell Bird
Software Developer

Developer with 3+ years experience in the aerospace industry. Extensive experience using analytical and problem-solving skills to deliver timely solutions. Solid understanding of numerical modelling techniques and best coding practices.

Recently taken an extended period of time off to improve my software development skills and complete several personal projects. Looking for a role that I can grow into and further develop these skills.

Contact

- ✉ contact@mitchellbird.com
- 📍 Auckland, NZ
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- 🔗 LinkedIn
- 🐙 Github

Skills

- Python
- Git
- CI/CD
- TypeScript
- React
- Angular
- Django
- HTML
- CSS
- RESTful APIs
- FastAPI
- Docker
- Next.js
- SQL/PostgreSQL
- Node.js
- C++
- C

Interests

- Surfing
- Hiking
- Reading

Professional Experience

Thermofluids Analyst, Rocket Lab
Sep 2022 - Sep 2025 | Auckland, NZ

- Developed and maintained internal tools for modelling and analysis. Deployed to wider group, maintained and improved with CI/CD.
- Lead the analysis of the venting system for the Neutron rocket and supported the development of the mechanical design.
- Analysed hardware requirements for the Electron rocket.
- Optimised the aerodynamic geometry of the reusable Neutron rocket.
- Analysed numerical data to understand trends, sensitivities and trade-offs to inform and optimize vehicle and system design.
- Advisor to other teams regarding questions on aerodynamics, thermodynamics and fluid mechanics.

Projects

MediaRS [WIP]
Created a service to compare recommendation systems for different forms of media.

- Precomputed similarity graphs, preloaded into RAM for fast querying.
- Built a full-stack, scalable web application using Angular, Typescript, Python and FastAPI.
- Integrated CI/CD pipelines to automate development, testing, and deployment workflows.

RouteCause
Created a service to approximate cost and emissions released for a given car journey.

- Built a full-stack, scalable web application using React, Next.js, Node.js, and TypeScript, connecting user input to backend services via RESTful APIs.
- Gained experience using state-dependent React patterns and styled components with CSS.
- Designed and managed a PostgreSQL database, implementing safe and efficient queries.

Education

University of Southampton
Master of Engineering (1st Class)

Aeronautical & Astronautical Engineering
Sep 2018-June 2022 | Southampton, UK

Relevant modules:
- Advanced Computational Methods
- Numerical Methods
- Systems Design and Computing

New Zealand Work Rights

Permanent Resident Visa Holder
Right to work in any role for any employer in New Zealand indefinitely.

References

Available upon request.