JAKE MARTIN

jakemartinaus@gmail.com www.jakemartin.com.au Sydney, Australia https://github.com/jakeMartin1234

EDUCATION

University of California, Berkeley *Aug 2019 - May 2023*
Undergraduate - Computer Science

Sydney Church of England Grammar School *Jan 2012 - Dec 2018*
High School

SKILLS

- **Languages:** Python, Javascript, Typescript, Golang, C++, SQL, C
- **Machine Learning/ Data Science:** XGBoost, Scikit Learn, Numpy, Pandas
- **Frameworks & Libraries:** NestJS, Angular, ReactJS
- **Tools & Platforms:** Linux, Git, Bitbucket, Jira, Confluence, Bamboo, Agile Methodology

RELEVANT COURSEWORK

Data Structures and Programming Methodology, Computer Architecture, Multivariable Calculus, Physics for Engineers, Discrete Mathematics and Probability Theory, Linear Algebra, Sound and Music Computing, Computer Graphics, Computer Security, Artificial Intelligence, Database Systems, Python and Earth Science, Efficient Algorithms and Intractable Problems

EXPERIENCE

NextGen - Sydney Australia *October 2023 - Present*
Software Developer - Full-Time
- Engineered and deployed scalable full-stack features to a platform that processed the sensitive, high-volume financial data behind more than 90% of Australian mortgage applications.
- Developed front-end components using Angular and back-end services with NestJS and SQL to meet stringent design specifications and ensure system reliability.
- Applied Agile methodologies using the Atlassian suite which includes tools such as Jira, Confluence and Bitbucket to streamline project management and collaboration.

UNSW Climate Change Research Center - Sydney, Australia *August 2024 - August 2025*
Research Officer - Casual
- Developed a high-precision hail classification model using XGBoost, achieving over 90% accuracy in detecting hail events across Australia from satellite and radar datasets.
- Leveraged historical and climate-projected satellite data to uncover 45-year trends in hailstorm frequency, intensity, and size, informing future climate risk assessments.
- Transformed large fragmented radar archives into streamlined, analysis-ready datasets, enhancing model efficiency and scalability for long-term climate monitoring.

Neubauer Agency - San Francisco, California *May 2023 - September 2023*
Web Developer - Internship
- Facilitated the development of custom websites for individual clients, aligning with their unique requirements and preferences.

PROJECTS

Encrypted File Sharing Program *July 2022*
- Developed and tested a secure file sharing program in Golang that utilizes multiple encryption techniques to ensure the confidentiality and integrity of shared files.

Dispersive Photon Mapping *April 2022*
- Implemented ray dispersion effects into on to an open source photon mapping library written in C++
- Simulated visually compelling scenes including the Pink Floyd's Dark Side of The Moon album cover and a kaleidoscope to showcase wavelength-dependent light behavior when refracting through different light mediums