

# JAKE MARTIN

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## EDUCATION

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### University of California, Berkeley

Aug 2019 - May 2023

Majoring in Computer Science

GPA: 3.58

### Sydney Church of England Grammar School

Feb 2013 - Nov 2018

High School

## PROGRAMMING LANGUAGES

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Python, Java, Javascript, ReactJS, ExpressJS, MongoDB, C, C++, SQL,  $\text{\LaTeX}$ , Github

## RELEVANT COURSEWORK

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Data Structures and Programming Methodology, Computer Architecture, Multivariable Calculus, Discrete Mathematics and Probability Theory, Linear Algebra, Sound and Music Computing, Computer Graphics, Computer Security, Artificial Intelligence

## EXPERIENCE

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### Looy Lab, University of California Museum of Paleontology

Feb 2022 - Present

- Worked alongside Professor Looy to develop a graph reader application to intake paleontology data sheets
- Designed and developed a user interface in ReactJS that enables a person to upload photos and quickly plot the borders of a data table in the photos
- The program designed to go hand in hand with a back-end server that can crop the image and scan each individual element to aid digitising the data.

### East Coast Sailing Sydney, Australia

Dec 2020 - May 2021

Deckhand

- Worked as a deckhand for a company that runs charter boat services during the summer months on Sydney Harbor.
- This job entailed cleaning the boat, assisting the captain with operations on the boat and helping out customers with their needs.

## PROJECTS

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### Ray Tracing Engine

- Implemented a ray tracing engine which is capable of rendering realistic images defined by virtual 3D meshes.
- Render loop is capable of rendering scenes using global illumination.
- Programmed Diffuse lighting, mirrors/ reflective surfaces, refractive surfaces, thin lens simulation and dispersive ray tracing.

### Gitlet

- Developed a piece of computer software that imitates most of the local operations that git does.
- Is implemented with both persistently stored serialized databases and can store any type of file.

## CO-CURRICULAR

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### UC Berkeley - Men's Rowing

Aug 2019 - October 2021

- Dedicated 20-30 hours a week to training with the Men's Rowing team in preparation for Division 1 Competition.
- Developed team work, communication and leadership skills through the large amount of time dedicated to the team.

## INTERESTS

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- Rowing (Won the U19 Australian National Rowing Championship in 2018), Computer Programming, Surfing, Fishing, Environmental Conservation