

JAKE MARTIN

✉ jakemartin@berkeley.edu 📍 Berkeley, California 🌐 <https://github.com/jakeMartin1234> 🌐 jakemartinaus.me

EDUCATION

University of California, Berkeley

Aug 2019 - May 2023

Majoring in Computer Science

Sydney Church of England Grammar School

Feb 2013 - Nov 2018

High School

PROGRAMMING LANGUAGES

Python, Java, Javascript, ReactJS, Node.JS, ExpressJS, MongoDB, JestJS, C, C++, Assembly Language, SQL, \LaTeX , Github

RELEVANT COURSEWORK

The Structure and Interpretation of Computer Programs, Data Structures and Programming Methodology, Great Ideas of Computer Architecture, Calculus, Multivariable Calculus, Discrete Mathematics and Probability Theory, Linear Algebra, Music and Computing, Foundations of Computer Graphics

PROJECTS

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.

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.

Ray Tracing Engine

- Programmed a rendering Loop which can generate photo-realistic images when given a viewpoint and a three dimensional mesh in a virtual space.
- Implemented global illumination, mirrored/ reflective materials, refractive materials and also simulations of camera focus.

CO-CURRICULAR

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.

WORK EXPERIENCE

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.

INTERESTS

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