# Robert Gee

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## EDUCATION

**Computer Science M.S., GPA 3.94**                                                           Expected Mar 2024
*College of Engineering, UC Santa Barbara | Santa Barbara, CA*
**Computer Science B.S., GPA 3.81**                                                           Sept 2019-June 2023
*College of Engineering, UC Santa Barbara | Santa Barbara, CA*

**Relevant Coursework**
- **Computer Science**: Data Structures and Algorithms, Operating Systems, Advanced Video Game Design, Machine Learning, Object Oriented Design in C++, Human Computer Interaction, Virtual Reality Development

## EXPERIENCE

**Programming Intern**                                                                        Feb 2021-Present
*Doherty Research Group, UC Santa Barbara Chemical Engineering | Santa Barbara, CA*
- Lead desktop app development in MATLAB visualizing crystal growth mechanisms and predicting morphology.
- Optimized code to decrease runtime of kMC simulations by over 80%, used object oriented programming to predict crystal morphology through user-input bond energies, designed the UI to to run COSMO calculations
- Presented new app features to industry collaborators/funders via Zoom (including Merck, AbbVie, and Pfizer)

**CS Capstone – AWS Development**                                                             Sept 2022-Mar 2023
*College of Engineering, UC Santa Barbara | Santa Barbara, CA*
- Developed a backend using AWS to keep track of user accounts and facial features for a mobile app
- Created a system that allows users to authenticate a login request with a face scan through the use of AWS Rekognition, as well as AWS DynamoDB, S3 API Gateway, and Lambda using Python
- Practiced Agile methodologies (such as Scrum and Kanban), continuous integration, and test driven development

**UI/UX Design Lead and Player Spell Designer**                                               Mar 2022-Jan 2023
*Gaucho Game Lab | Santa Barbara, CA*
- Designed an elegant UI from scratch for a Unity game that is easy for other developers to interface with
- Created methods in C# for saving player preferences, dynamically changing the status of a player, changing game levels, detecting nearby enemies, changing player input mappings as well as a notification system

**Research Assistant**                                                                        Mar 2022-Sep 2022
*Bionic Vision Lab, UC Santa Barbara Computer Science | Santa Barbara, CA*
### Bionic Vision Experiment Design
- Developed open source software for the bionic vision community to use as a framework to create VR experiments
- Built 3D virtual environments for bionic vision simulations in Unity, using C# and shaders
- Designed VR experiments for subjects to test the feasibility of bionic vision in real life scenarios
### Text Recognition Machine Learning Model
- Tested the feasibility of giving blind people the ability to read text with the use of virtual reality
- Utilized MNIST datasets to train an ML model with ONNX and Barracuda
- Created a text recognition algorithm use images from a VR headset to predict the text in front of a test subject

**Vegan's Revenge: A 3D Unity Game**                                                          Jan 2022-Mar 2022
*College of Engineering, UC Santa Barbara | Santa Barbara, CA*
- Created a 3D, real time strategy game in Unity and C# from scratch
- Built an entity component system in order to integrate 3D models, animations and sounds sourced online
- Utilized components such as colliders, NavMesh agents, animation controllers and self-written scripts

## SKILLS

- **Programming Experience:** Unity, C#, MATLAB, Python, C++, Java, React, C, Git, JavaScript
- **Technical Skills:** AWS, Operating Systems (Windows, Linux, iOS, macOS, Android),  Excel, Phyphox
- **Software Team Skills:** Agile Development, Scrum, Kanban Boards

## AWARDS & LEADERSHIP

- **Dean's List |** *UC Santa Barbara*                                                        2019-2023
- **Team Captain |** *Men's Club Volleyball - UC Santa Barbara*                                2021-2023