

Matthew Leung

916-698-3370 | m2leung@ucsd.edu | [mleung2019.github.io](https://github.com/mleung2019) | [linkedin.com/in/matthew-k-leung](https://www.linkedin.com/in/matthew-k-leung) | github.com/mleung2019

EDUCATION

University of California, San Diego

Bachelor of Science in Computer Engineering

La Jolla, CA

September 2022 – Present

- GPA: 3.98

EXPERIENCE

Full-Stack Intern

July 2021 – September 2021

PilotCity

- Engineered a Grammarly-styled Google Chrome extension to localize and simplify private and user policies, achieving Flesch-Kincaid grade level scores of 65+
- Leveraged natural language processing to provide real-time edits and suggestions for improved clarity, shortening revision times by 20%
- Facilitated code reviews and closed 20+ pull requests from other interns
- Directed a team of 5 front-end developers and collaborated with other teams

PROJECTS

Procedural City Generator | *Godot, C#, GLSL*

August 2023 – Present

- Constructed a Godot project that enable users to explore a procedurally infinite, customizable city
- Revamped the city's visual experience by incorporating day and night cycles with adaptive lighting and producing 15+ custom building textures with fragment shaders
- Harnessed Voronoi noise and 7 vertex shaders to generate immersive and natural city layouts
- Engineered a robust architecture that enables users to quickly customize the generated environment by modifying 10 generation variables

Triton Workout Planner | *React, MongoDB, TypeScript, Bootstrap*

September 2024 – December 2024

- Integrated frontend and backend systems and set up a robust client-server architecture, supporting features such as workout plan creation, goal setting, and progress tracking
- Authored 10+ test cases for a variety of frontend components to ensure robust and thorough CI/CD testing
- Coordinated project updates, led weekly sprint planning meetings, and assisted teammates with debugging
- Resolved 51 issues and pull requests and conducted code reviews, providing constructive feedback to improve code quality and efficiency

WatchList Web App | *React, JavaScript, HTML/CSS*

January 2023 – March 2023

- Pioneered a full-stack web application that enables users to curate a list of shows and movies they plan to watch from 25 streaming services across 50+ countries and receive personalized recommendations
- Optimized and modernized the website's back-end functionality, cutting API usage by 40%
- Harnessed the efficiency of React Hooks and prevented unnecessary website rerenders, reducing website load times by over 25%

Discord Bot | *PostgreSQL, Google Cloud Platform, Node.js, JavaScript, Python*

August 2020 – June 2022

- Deployed a fully functional Discord bot that runs 23/7 with minimal downtime
- Synthesized AI language models that simulate user behavior trained on approximately 300,000 messages by fine-tuning GPT-2 models
- Managed PostgreSQL databases to maintain leaderboards and store information for 25+ users

TECHNICAL SKILLS

Languages: Java, Python, C/C++/C#, SystemVerilog, GLSL, SQL (Postgres), TypeScript, JavaScript, HTML/CSS

Frameworks/Runtime Environments: React, Node.js, Bootstrap, Flask, JUnit

Developer Tools: Git, MongoDB, Google Cloud Platform, Heroku, VS Code, Hugging Face, Unity, Godot

Libraries: pandas, NumPy, PyTorch, transformers

Hardware Skills: Circuit analysis, digital systems design, linear systems, LTspice, ModelSim