

Matthew Leung

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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

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

August 2020 – Present

- 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
- Incorporated hyper-realistic AI voice synthesis commands for Discord calls with less than 10 seconds of delay per request
- Managed PostgreSQL databases to maintain leaderboards and store information for 25+ users

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%

Spotify Playlist Generator | *Node.js, JavaScript*

November 2021 – December 2021

- Authored a script that classifies Spotify songs based on 10+ "audio features", such as danceability, energy, key, tempo, valence, and more
- Innovated a feature that generates 12 unique, personalized playlists corresponding to different times of day

TECHNICAL SKILLS

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

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

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

Libraries: pandas, NumPy, PyTorch, transformers