# Matthew Leung

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## EDUCATION

**University of California, San Diego**                                                 La Jolla, CA
*Bachelor of Science in Computer Engineering*                          *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