# George Ma

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## EDUCATION

**University of California, San Diego** — **La Jolla, CA**
*B.S. in Data Science*, *Minor in Business Analytics; GPA: 3.9* — *Expected June 2027*
Relevant Courses: Data Structures & Algorithms, Object-Oriented Programming, Discrete Math, Data Science Theory

## TECHNICAL SKILLS

**Programming Languages:** Python, Java, Javascript, Typescript, SQL, C#, Groovy, Bash, YAML, HTML/CSS
**Libraries/Frameworks:** React, Next.js, React Native, Tailwind, Flask, PyTorch, scikit-learn, JUnit, Pandas, NumPy
**Technologies & Tools:** AWS, Git, REST API, MySQL, PostgreSQL, Docker, Firebase, Node.js, OpenAI, Gradle

## WORK EXPERIENCE

**Praxie AI** — **San Francisco, CA**
*Software Engineer Intern* — *April 2025 - Present*
- Implemented 10+ **React Native** UI components, pages, and modals in **TypeScript** serving 200+ youth golfers
- Designed 6 nested sub-2s algorithms to query Firestore collections for tournament search filtering with pagination
- Optimized directory modularization of components and functions, reducing onboarding time for new features
- Boosted client-side responsiveness by 20% by deploying 8 data migration scripts using the **Firestore Admin SDK** to denormalize Firestore data structures with pre-computed fields

**DS3 Consulting** — **La Jolla, CA**
*Data Analyst* — *March 2025 - June 2025*
- Standardized and imputed data for **EDA** on a 3,000-member dataset for Solana Center's waste collection program
- Analyzed visuals of drop-off frequency, waste volume, and seasonality using **Pandas**, **Matplotlib**, and **NumPy**
- Applied bootstrapping and hypothesis tests (t-tests, chi-square) to validate predictions on trends in participation

**Code Ninjas** — **Northridge, CA**
*Coding Instructor* — *October 2023 - January 2024*
- Co-taught intermediate programming concepts in **JavaScript** and **C#** to classes of up to 20 students (ages 4-13)
- Developed and taught an after-school enrichment programming bootcamp in **Python** for classes of over 8 students
- Facilitated the enrollment of 12 new students through trial game development sessions on Microsoft MakeCode

## PROJECTS

**Spotify Mood Player** ⚙ | *Demo* ↗ | **Live Website** ↗ — April 2025 - July 2025
- Created a full-stack mood-based music categorization and playback app with a **React/TypeScript/Vite** frontend, **Flask/Python REST API** backend deployed via a **CI/CD** pipeline on **AWS Lambda**, and **PostgreSQL** Supabase DB
- Implemented Spotify **OAuth 2.0** flow with **session cookies** via a **first-party proxy** for cross-browser compatibility
- Achieved 92.6% accuracy in track classification by designing an end-to-end **machine learning pipeline** leveraging **OpenAI**, fine-tuned with lyrics from Genius and audio features extracted from iTunes using Librosa
- Optimized analysis runtime by parallelizing computations with a **ThreadPoolExecutor** per **Gunicorn** worker

**Pokemon Generator** ⚙ | *Demo* ↗ | **Live Website** ↗ — April 2025 - June 2025
- Created a full-stack **Flask** web app with a **Tailwind CSS** interface that generates and displays Pokemon (image, stats, ability) based on user input through a **PostgreSQL** Supabase database using **SQLAlchemy ORM**
- Developed and trained a **PyTorch Conditional GAN** featuring 6 convolutional layers to create unique 256x256 pixel Pokemon images from user-defined condition vectors and random noise vectors via **RESTful API**
- Used **scikit-learn RandomForestRegressors** and a dictionary to predict stats and select ability based on type(s)

**Text-Based Adventure Game** ⚙ | *Demo* ↗ — April 2024 - April 2025
- Built an object-oriented Zork-inspired **Java** game with 20+ graph-linked rooms, 40+ items, and a CLI engine
- Engineered a **Levenshtein-based fuzzy interpreter** to tolerate typos with over 90% command-matching accuracy
- Implemented HashMap-based room navigation, ArrayList inventory tracking, dynamic puzzles with item-triggered state transitions; designed with scalable architecture for extensible room and item hierarchies and feature injection