George Ma

georgema2020@gmail.com | github.com/itsgeorgema | linkedin.com/in/ggeorgema | (661) 513-3350

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*

- Developed 10+ reusable **React Native** pages and UI components in **TypeScript** serving **300+ youth golfers**
- Designed 6 **sub-2s nested query algorithms** for paginated tournament search filtering from Firestore collections
- Optimized directory modularization of components and hooks, reducing onboarding time for features by 42.9%
- Architected a performant data model by creating and deploying **8 data migration scripts** using the **Firestore Admin SDK** to denormalize data structures with pre-computed fields, boosting data-fetching speeds by 20%

UCSD Alpha Kappa Psi — **La Jolla, CA**
Webmaster/Lead Developer — *December 2024 - Present*

- Spearheaded the migration of the chapter website from Wix to a Jamstack solution (**Next.js**, **Tailwind CSS**, **Supabase**), resulting in a scalable platform with **60% faster** page load times for **over 400 monthly active users**
- Directed an **Agile** workflow for code reviews and issue tracking with Git to guide a team of 3 developers
- Designed an optimized **PostgreSQL** database schema, reducing data-fetching times for dynamic content by 75%
- Authored comprehensive documentation that enables future webmasters to easily manage and update the site

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

PROJECTS

Spotify Mood Player | ***Demo*** | **Live Website** — April 2025 - August 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 - July 2025

- Created a full-stack **Flask** web app with a **Tailwind**-styled 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