Omar Fargally

+1 (315) 825-1852 | ofargally.pro@gmail.com | linkedin.com/in/ofargally02 | github.com/ofargally

Education

Colgate University Hamilton, NY

Bachelor of Arts in Computer Science, Minor in Linguistics *Aug 2021 – May 2025*

- Deans Award for Academic Excellence (Multiple Semesters) | GPA : 3.55
- Relevant Coursework: Natural Language Processing (NLP) , Applied Machine Learning (ML), Data Analysis and Visualization, Human-Computer Interaction (HCI), Computer Graphics, Game Development, Operating Systems

Technical Skills

Languages & Tools: Java, C#, Python, JavaScript, TypeScript, SQL, HTML/CSS, Docker, AWS, Git, GitHub, CI/CD, Render, Heroku
Frameworks & Libraries: React, Node.js, Express.js, FastAPI, Pandas, PyTorch, NumPy, PostgreSQL, MongoDB

Experience

Software Engineer Intern May 2024 – Aug 2024

Ozeki Technologies (Techstars NYC '24) *Mill Valley, CA (Remote)*

- Developed full-stack legal playbook automation platform using React, Node.js, MongoDB, and Docker, deploying on Render for scalable production delivery, securing $200,000+ in seed funding through demonstrated product-market fit
- Built RESTFul APIs using Node.js & Express.js for a Clause Builder feature to parse uploaded legal contract PDFs and extract legal contract clauses, reducing manual data entry and accelerating 80% of the clause extraction process
- Integrated Google Docs API with OAuth 2.0 authentication to allow clients to track legal contract negotiation changes and manage clause revisions through the Ozeki platform, reducing negotiation cycle time by 2 days per contract
- Engineered GPT-powered assistant prototypes using OpenAI API and LangChain for prompt chaining, logging, and persistent memory, achieving a 75% classification accuracy in predicting negotiation clause priorities

Data Science Research Assistant May 2023 – Aug 2023

Colgate University *Hamilton, NY (Hybrid)*

- Rebuilt existing code-base for online experiments from Ibex to PCIbex using research-specific JavaScript libraries, improving cross-browser and cross-device reliability and accelerating future experiment development by 1.7x
- Automated data processing of 800,000+ rows from 850+ participants using standardization, normalization, and anomaly detection, resulting in high-quality datasets for subsequent analysis using Bayesian and linear-mixed effect models

Projects

Game Discovery Web App | *React, TypeScript, Chakra UI, Jest, Zustand* [Vercel]

- Implemented 25+ reusable React components with filtering and search features based on genres and platforms
- Optimized state management with Zustand, eliminating prop drilling and leading to a 10% faster render time
- Streamlined data fetching and caching with React Query, reducing load times by 75% and data usage by 15%
- Achieved 92% code coverage with unit tests, ensuring reliability and maintainability of the application

AI Social Media | *FastAPI, PostgreSQL, LangChain, SQLAlchemy ORM, Pydantic, Pytest, TailwindCSS, React* [GitHub]

- Developed async registration, authentication, follow, upvote, and post endpoints, resulting in sub-100ms response times
- Implemented JWT-based authentication to secure user sessions and added search functionality for posts and user profiles
- Integrating LangChain LLM agents to autonomously post, comment, and follow to create self-governing ecosystem

Instrument-Classifier - ML Pipeline | *Python, PyTorch, Scikit-learn, NumPy, Pandas, Librosa, Optuna* [GitHub]

- Trained CNNs & Transformers on MusicNet data for multi-class, multi-label classification with 78% F1 score
- Consolidated 120 instrument types into 12 classes using MFCC feature extraction, increasing training efficiency by 35%
- Employed Optuna's Bayesian optimization for hyper-parameter tuning, boosting the F1 score from 57% to 78%

WaldoUnchained - Shooter Game | *Unity, C#, OOP, Game Design* [itch.io]

- Developed multi-mode shooting system, integrating bullet spread, recoil animations, and sound effects with UI updates
- Utilized finite state machines to implement path-finding, patrolling, and auto-shooting behaviors for AI enemy agents
- Developed custom character motor and FPS controller, enabling smooth player movement and responsive jumping

GuitarGooser - Rhythm Battle Game | *Unity, C#, Game Design, OOP* [itch.io]

- Created ArrowSpawner to synchronize arrows with MIDI-formatted note timings with 95% alignment precision
- Implemented Singleton-based GameManager to handle player stats and game states for consistent game logic
- Designed event-driven animation system for handling fighting, idling, and hit reactions, ensuring FPS consistency