

# Zhenghao Gong

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## EDUCATION

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### University of California, San Diego

*Bachelor of Sciences in Data Science*

**GPA:** 3.88/4.0

San Diego, CA

*Sep. 2022 – June 2026*

**Coursework:** Data Structure, Prob & Stat, Linear Algebra, Calculus, Machine Learning, DataBase, DS principle, Data Visualization, Representation Learning, Probability Theory, Statistics, Deep Learning

## EXPERIENCE

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### LLM System Develop Interns

June 2024 – Sep. 2024

*Kami Vision*

*San Jose, CA*

- Developed large-scale model applications for deep learning video understanding and Retrieval-Augmented Generation (RAG) systems.
- Led the design and construction of a pipeline for the RAG system, optimizing response speed and inference performance using techniques like hybrid retrieval.
- Built a backend server and designed efficient parallel APIs to enhance system scalability and performance.
- Integrated a voice Q&A feature powered by local deep learning models, expanding the application's functionality.

## PROJECTS

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### LLM-based Full-Stack Email Assistant | *Python (Flask, langchain), HTML/CSS, JavaScript*

- Developed an AI-driven email assistant capable of retrieving relevant email threads and generating intelligent, context-aware responses.
- Leveraged Retrieval-Augmented Generation (RAG) to enhance factual accuracy and ensure outputs are grounded in retrieved email content.
- Built and deployed the service using Flask, using Ajax and Server-Sent Events (SSE) to enable streaming response rendering on the chat frontend

### Local LLM Web Agent System with Visual Perception | *Python (Selenium, Opencv, Ollama)*

- Skilled in using Selenium to implement browser proxy automation tasks, including dynamic page interaction and data extraction
- Proficient in using OpenCV for background subtraction and boundary detection, enabling efficient target detection and feature extraction.
- Integrated large language models (LLMs) into the proxy system to automate complex tasks and optimize inference speed and accuracy

### MARL Framework Development for RL | *Python (Pytorch, Gym, Pygame)*

- Developed a modular MARL framework supporting adversarial training between agents in both competitive and cooperative settings.
- Implemented advanced RL algorithms including Proximal Policy Optimization (PPO) and Soft Actor-Critic (SAC) for stable and sample-efficient policy learning.
- Designed custom Gym environments to simulate multi-agent interactions with reward shaping, shared state space, and strategic opposition dynamics.

### Kaggle: Predict Energy Behavior of Prosumers | *Python (polars, lightgbm)*

- Conducted comprehensive data cleaning and Exploratory Data Analysis (EDA) utilizing polars.
- Executed feature engineering on Time-Series Data including STL decomposition
- Utilized LightGBM, XGBoost, and model stacking algorithms to forecast electricity consumption and production.

## TECHNICAL SKILLS

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**Languages:** Python, SQL (Postgres), JavaScript, HTML/CSS, C/C++, Rust

**Frameworks:** Node.js, D3.js, Flask, Sanic

**Developer Tools:** Git, Docker, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse

**Libraries:** Pytorch, Transformers, Tensorflow, Langchain, Pandas, NumPy, Matplotlib, Plotly, Scipy