Mira Saini | AI & ML Engineer | Santa Cruz, Ca

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Summary

CS junior specializing in building agentic, retrieval-driven AI systems and ML pipelines. Led development of a Pinecone-backed knowledge base (200+ campus resources) with Python preprocessing and OpenWebUI-based tool orchestration. Experienced deploying AI/LLM workflows, integrating external APIs, constructing structured datasets, and translating research concepts into usable applications.

Education

University of California, Santa Cruz: B.S. Computer Science (Expected 2027)

Relevant Coursework: Algorithms & Data Structures, Neural Networks, Data Visualization, ML, AI

Experience

UC Santa Cruz Tech4Good Research Lab — Generative AI Main Lead Researcher   **Dec 2025 – Present**

- Directed a 6-member engineering team (with 2 PhD mentors) to develop an OpenWebUI-based UCSC community chatbot used by 300+ students; integrated Pinecone (llama-text-embed-v2) and engineered CSV/JSON schemas + chunking strategies to elevate retrieval quality.
- Architected Python tool-calling + routing modules that deliver semantic club/event retrieval and contextual recommendations; maintained >200 structured knowledge-base records.
- Devised an LLM-driven auto-invite workflow that interprets dialogue context to place users into 5+ topic-specific channels, improving relevance and user engagement.
- Analyzed >1,000 chat logs and iteratively refined prompt structure + retrieval logic, decreasing hallucinations and strengthening grounding during testing.

Projects

AddIt — Event Poster → Google Calendar (Streamlit + Gemini)

GitHub: github.com/Simba4077/Add-It

- Constructed an AI workflow to ingest event posters → extract structured fields (title, time, location) → auto-generate Google Calendar events, cutting manual entry time by ~80% (≈30–60s → <10s).
- Attained 95%+ field extraction accuracy across ~50 posters; incorporated a Streamlit UI for user verification + editing.
- Enhanced reliability with defensive parsing + error-handling for OCR/LLM edge cases.

NumPy CNN — CIFAR-10 Image Classifier

Github: github.com/Simba4077/Convolutional-Neural-Network

- Implemented CNN from first principles (conv, pooling, activation, FC) using NumPy; assembled full train/val/test pipeline with reusable training utilities.
- Reached ~50–60% accuracy on CIFAR-10; tracked convergence using structured loss + metric reporting.

MLP MNIST Classifier - Training Pipeline

GitHub: github.com/Simba4077/MLP-MNIST-Classifier

- Wrote a minimal MLP training loop (train/val split, batching, accuracy/loss reporting) with dataset preprocessing (normalization, shape transforms) to classify handwritten digits in MNIST dataset with accuracy of >97%
- Implemented dataset preprocessing (normalization, reshaping) and modularized training functions for reusability

Skills

Programming: Python (pandas, NumPy, regex), Java, C, SQL, Git/GitHub, GCP, Firebase

AI & Agentic Systems: RAG pipelines, agent workflows, embeddings (Pinecone)

Data Engineering: JSON/CSV schema design, data cleaning/normalization, logging, labeling, MySQL, MongoDB