LILY MARY FARIS

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Software engineer focused on building and deploying production AI systems, with experience in LLM-based workflows, automation, and reliability for real-world use cases.

SKILLS AND INTERESTS

- **Languages:** Python, SQL, JavaScript, Java, C++
- **AI / ML:** LLMs, RAG pipelines, FAISS, OpenAI APIs, PyTorch, NLP, Computer Vision
- **Systems & Tools:** Docker, Kubernetes, Linux, AWS, Node.js, React, n8n
- **Engineering Concepts:** Backend systems, workflow automation, distributed systems, data modeling
- **Additional:** Conversational Spanish, Arabic, and Chinese; environmental justice, visual arts

EDUCATION

UNIVERSITY OF CALIFORNIA, SANTA CRUZ — **Santa Cruz, CA**

(MS) ***Master of Science in Computer Science;*** — **Sep 2024 - Jun 2025**
Degree completed in one-year intensive contiguous program, graduated with honors.

(BS) ***Bachelor of Science in Computer Science*** *with Honors****;*** — **Sep 2021 - Jun 2024**
Awards: Undergraduate Dean's Award Merit Scholarship, Dean's List 2021-24 (top 10%), College Scholars Program.

WORK EXPERIENCE

ARROW NORTH
Software Engineer Intern — **Nov 2025 - Present**

- Designed and deployed **production AI-powered automation systems**, transforming unstructured inputs (meeting transcripts, spreadsheets, notes) into reliable, structured workflows.
- Translated business requirements into maintainable backend logic for task routing, approvals, and delivery using ClickUp, Slack, APIs, n8n, and custom tooling.
- Optimized AI system performance using prompt design, confidence thresholds, and deterministic logic to improve accuracy and reliability.
- Implemented human-in-the-loop review flows, fallback logic, and monitoring to support safe deployment and stakeholder trust.
- Led communication with non-technical teammates, proactively identifying edge cases before deployment and independently debugging issues to improve system stability.

OUTLIER AI
AI Development Specialist — **Nov 2024 - Dec 2025**

- Analyzed and stress-tested complex AI systems by identifying failure modes, debugging edge cases, and validating output accuracy.
- Communicated technical findings clearly to improve downstream system behavior and reliability.

AMAZON OPERATIONS - Intern — **Jun - Aug 2023**

- Improved outbound process efficiency by 5% through data-driven analysis and cross-functional coordination.

PROJECTS

'ROOT-WISE' CHATBOT — **Santa Cruz, CA**
Developer, Product Owner (graduate thesis) — **Sep 2024 - Present**

Developed an AI-powered retrieval-augmented generation (RAG) chatbot focused on sustainability and zero-waste cooking, leveraging **NVIDIA embedding models**, **OpenAI LLMs**, and a **FAISS** vector store with custom retrieval pipelines. Integrated domain-specific context from the Institute for Functional Medicine (IFM) toolkit.

- Achieved **82.5% personalization accuracy** across user context dimensions and **100% dietary compliance**.
- Evaluated output quality using **Self-BLEU (0.0357)** for diversity, **embedding-based relevance (0.72 avg)**, and **groundedness (0.067 avg)**.
- Recognized as an award winner in the **NVIDIA × LlamaIndex Developer Contest**; project developed in collaboration with **Leilani Gilpin's AIEA Lab**.

MARKETPLACE AI — **LEEPS Lab, UCSC**
Developer, Product Owner (undergraduate thesis) — **Jan 2023 - Jun 2024**

Investigated effects of algorithmic massification on features of a financial market using AI. Simulated increased accessibility of AI trading and reduced trader acquisition costs.

- Developed a configurable (continuous double auction) market simulation that handles multiple participant traders at once.
- Constructed an algorithmic interpreter using OpenAI's ChatGPT API and LlamaIndex (RAG) to deploy a market strategy from using a .txt database and a user's instruction.
- Connected trader client and AI components to implement user strategy in the market simulation.