

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, prompt design, evaluation metrics, human-in-the-loop systems
- **Data & Automation:** Workflow automation, web scraping, data extraction, data normalization, Apify, SerpAPI, API orchestration, unstructured-to-structured data pipelines
- **Systems & Tools:** Docker, Kubernetes, Linux, AWS, Node.js, React, n8n, ClickUp, Slack integrations, REST APIs, webhooks
- **Engineering Concepts:** Backend systems, distributed systems, system reliability, error handling & fallback logic, monitoring, 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; Degree completed in one-year intensive contiguous program, graduated with honors.	Sep 2024 - Jun 2025
(BS) Bachelor of Science in Computer Science with Honors; Awards: Undergraduate Dean's Award Merit Scholarship, Dean's List 2021-24 (top 10%), College Scholars Program.	Sep 2021 - Jun 2024

WORK EXPERIENCE

ARROW NORTH Software Engineer Intern	Nov 2025 - Present
<ul style="list-style-type: none">• 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
<ul style="list-style-type: none">• Evaluated LLM-driven systems by identifying failure modes, edge cases, and output inconsistencies.• Provided structured feedback to improve model behavior, robustness, and downstream reliability.	
AMAZON OPERATIONS RL Area Manager Intern	Visalia, CA Jun - Aug 2023
<ul style="list-style-type: none">• Improved Outbound CPT efficiency by 5% via an independent improvement proposal project.• Coordinated cross-functional stakeholders while managing timelines, deliverables, and performance metrics.	

PROJECTS

'ROOT-WISE' CHATBOT

Developer, Product Owner (graduate thesis)

AIEA Lab, UCSC

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

Developer, Product Owner (undergraduate thesis)

LEEPS Lab, UCSC

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.

'ROBOT EAR'

Developer

UC Santa Cruz, CA

Sep 2023 - Jan 2024

Engineered an ML web application to transcribe audio (.wav) into sheet music (.pdf) using vision transformers.

- Trained on 12,796 spectrograms (NSynth dataset), achieving **90% training accuracy**.
- Analyzed generalization limits and train-test distribution gaps (4% test accuracy), identifying opportunities for dataset refinement and model tuning.

'TRUTH BEE TOLD'

Product Owner

Ann Arbor, MI

Jan 2021

Independently developed link-based educational game about the ecological importance of native pollinators to environmental health. Collaborated with the Ann Arbor Environmental Commission (as a Youth Commissioner) on an educational campaign.

BEYOND ENGINEERING

SPARROW MEAT MARKET

Butcher

Ann Arbor, MI

2018

My first job at 14. Learned discipline, precision, and accountability in a fast-paced environment where preparation, cleanliness, and attention to detail was essential (plus it was fun).

ANN ARBOR PARKS AND REC

Lifeguard & Swim Instructor

Ann Arbor, MI

Spent five years responsible for swimmer safety, emergency response, and calm decision-making under pressure; mentored and trained younger guards while maintaining a safe, welcoming environment.

Youth Environmental Commissioner

Worked with city staff and community members on sustainability-focused education initiatives and local environmental policy discussions, representing youth perspectives in civic decision-making.

Art Instructor

Provided private art instruction to children across mixed media and figure drawing, adapting lessons to different learning styles and fostering creative confidence.

Artist-in-Residence (Upcoming)

Selected for a one-week oil painting residency in Ireland (and a complete scholarship), July 2026.