Ana Araujo

📞 808-352-9511 | ✉ ancoaraujo@gmail.com | 🔗 acatarinaoaraujo | 🐙 acatarinaoaraujo | 📗 portfolio

EDUCATION

University of Hawaii at Manoa	Honolulu, HI
Master of Science in Computer Science, GPA 3.87/4.00	Aug. 2022 – May 2024

University of Hawaii at Manoa	Honolulu, HI
Bachelor of Science in Computer Science, GPA 3.44/4.00	Jan. 2019 – May 2022

Coursework: Data Structures, Algorithms, Database Systems, Data Networks, Software Engineering, Software Quality Assurance, Statistics, Data Science, Machine Learning, Deep Learning for Computer Vision, Human-Centered AI.

SKILLS & INTERESTS

Languages: Python, JavaScript, TypeScript, Java, C++, C, SQL, HTLM, CSS, Swift
Tools/Technologies: Node.js, React.js, Next.js, Vue.js, Flask, MongoDB, PostgreSQL, AWS, Git, Jira, Docker
Machine Learning: Pandas, NumPy, NLTK, Matplotlib, Sklearn, PyTorch, Tensorflow, LangChain, Transformers

WORK EXPERIENCE

Software Engineering Graduate Teaching Assistant — Aug. 2022 – May 2024
University of Hawaii at Manoa — Honolulu, HI
- Collaborated with the professor to improve the learning experience for **80+ Software Engineering** students.
- Guided students in constructing and deploying a total of more than **56 web applications** using the MERN stack.
- Achieved an average **score of over 75%** across four semesters, resulting in better academic performance.
- Implemented advanced quiz methods, leading to a **15% increase** in student grades on programming quizzes.

Software Engineer Intern — May 2023 – Aug. 2023
World Wide Technology — Honolulu, HI
- Enhanced cybersecurity training by engineering features for a Vue.js platform, benefiting over **1,000 employees**.
- Developed **REST API endpoints** for PostgreSQL, creating a data system with efficient retrieval and response.
- Trained classification models to predict the difficulty in challenges, achieving a 0.91 F1 score with Decision Tree.
- Improved code quality by leading the team in defining requirements and deploying **92% code-covered unit tests**

PROJECT EXPERIENCE

Mobile Application Security Analysis | *Python, ETL, NLP, Research*
- Advanced mobile security analysis by implementing an ETL pipeline to process **7,000+ Stack Overflow queries**, leveraging **NLP techniques** and LDA clustering to identify common security challenges faced by app developers.

Software Vulnerability Classification 📗 | *Python, Hugging Face, LLMs, Research*
- Improved vulnerability classification by **fine-tuning 5 LLMs**, including LLaMA-2, to achieve a **0.95 F1 score**.
- Outperformed traditional machine learning models by **up to 17%** by leveraging transformer-based architectures.

Deep Learning for Coffee Plant Pathology 🐙 | *Python, Pytorch, ResNet50, CNNs*
- Achieved **87% accuracy in classifying Arabica coffee leaf diseases** using on a diverse dataset of leaf images.
- Enhanced model generalization capabilities by 8% through the execution of image transformation techniques.

Receipt Manager 🐙 | *JavaScript, Next.js, MongoDB, OCR, GPT-4*
- Streamlined financial management by developing an **OCR-powered receipt scanning** and **GPT-4-driven data parsing application**, reducing manual data entry time and **increasing data accuracy by 80%**.
- Empowered financial decisions with a personalized dashboard featuring visualizations, revealing spending patterns

Marine Debris Management System 🐙 | *JavaScript, Next.js, MongoDB, APIs*
- Elevated marine debris reporting and tracking with a centralized database, saving **hundreds of hours** annually.
- Integrated a dedicated hotline and **chatbot interface using Google Dialogflow**, ensuring faster resolutions.
- Accelerated marine conservation by employing **data-driven insights** and analytics to guide effective strategies.

DOE Legislative Tracker 🐙 | *JavaScript, Node.js, React.js, Express.js, MongoDB*
- Developed a role-based legislative tracking system, streamlining testimony, approvals, and hearing management.
- Boosted event tracking capability by introducing a calendar utilizing **real-time scraped data** to generate events.

PUBLICATIONS

[1] *A Developer-Centric Study Exploring Mobile Application Security Practices and Challenges.* ICSME, arXiv:2408.09032

[2] *Mobile App Security Trends and Topics: An Examination of Questions From Stack Overflow.* HICSS, arXiv:2409.07926