

ANA OLIVEIRA ARAUJO

☎ 808-352-9511 | ✉ ancoaraujo@gmail.com | in acatarinaoaraujo | 🌐 acatarinaoaraujo | 📁 portfolio

EDUCATION

University of Hawaii at Manoa

Master of Science in Computer Science, GPA 3.87/4.00

Honolulu, HI

Aug. 2022 – May 2024

University of Hawaii at Manoa

Bachelor of Science in Computer Science, GPA 3.44/4.00

Honolulu, HI

Jan. 2019 – May 2022

Activities: Programming and Algorithms, Supporting Women in Technology (SWITCH)

Awards: 2nd HACC 2022, 3rd HACC 2023, Kalo Grant Recipient 2023.

EXPERIENCE

Software Engineer Intern

May 2023 – Aug. 2023

World Wide Technology

Honolulu, HI

- Designed and engineered features for a Vue.js platform to evaluate cybersecurity knowledge among 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.
- Deployed Jest unit tests with **92% code coverage** and led the team in defining **application requirements**.

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.

PROJECTS

Mobile Application Security Analysis | *Python, NLP, NLTK, Research*

July 2023 – Aug. 2024

- Built a text preprocessing pipeline by incorporating NLP techniques, leading to improved accuracy in LDA.
- Employed topic modeling on over **7,000 queries** to identify security challenges in mobile app development.

Vulnerability Classification with LLMs 📄 | *Python, Hugging Face*

Aug. 2023 – May 2024

- Fine-tuned 5 large language models**, including LLaMA 2, achieving a 0.95 F1 score in the classification task.
- Outperformed traditional machine learning models by up to 17% by leveraging transformer-based architectures.

Marine Debris Tracker 🗺 | *JavaScript, NextJS, MongoDB*

Oct. 2023 – Nov. 2023

- Enhanced marine debris reporting and tracking with a centralized database, saving **hundreds of hours** annually.
- Integrated a **dedicated hotline** and **chatbot interface** using Google Dialogflow CX, ensuring faster resolutions.

Coffee Leaf Health Diagnoser 🍃 | *Python, Pytorch, CV2, ResNet50*

Mar. 2023 – May 2023

- Achieved 87%** accuracy in classifying coffee leaf diseases through a convolutional neural network architecture.
- Enhanced model generalization capabilities by 8% through the execution of image transformation techniques.

Sentiment Analysis on AI Discussions 🗨 | *Python, PyTorch, TensorFlow*

Mar. 2023 – May 2023

- Conducted sentiment analysis on AI discussions by classifying and training with over **8,000 Reddit data points**.
- Increased F1 score by over 10%, achieving 0.80 using the BERT transformer architecture for better performance.

Legislative Tracker 🗳 | *JavaScript, Node.js, React, MongoDB*

Oct. 2022 – Nov. 2022

- Developed a role-based legislative tracking system, streamlining testimony, approvals, and hearing management.
- Boosted event tracking capability by introducing a calendar leveraging real-time scraped data to generate events.

PUBLICATIONS

Peruma, A., et al. *A Developer-Centric Study Exploring Mobile Application Security Practices and Challenges*. 📄

Peruma, A., et al. *Mobile App Security Trends and Topics: An Examination of Questions From Stack Overflow*. 📄

TECHNICAL SKILLS

Languages: Python, JavaScript, TypeScript, Java, C++, C, SQL, Swift

Tools/Technologies: MongoDB, PostgreSQL, MySQL, Firebase, Node.js, React, NextJS, Vue, Flask, Git/GitHub, Jira, Docker, Xcode, Pandas, NumPy, NLTK, spaCy, Matplotlib, Sklearn, PyTorch, Tensorflow