

ANA ARAUJO

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EDUCATION

University of Hawaii at Manoa

Master of Science in Computer Science, **GPA 3.8/4.0**

Honolulu, HI

Aug. 2022 – May 2024

University of Hawaii at Manoa

Bachelor of Science in Computer Science, **GPA 3.4/4.0**

Honolulu, HI

Jan. 2019 – May 2022

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

- **Led a team of 5 interns** to develop new features for a capture-the-flag (CTF) cybersecurity training platform using Vue.js, improving user engagement and benefiting over **1000 employees**, ultimately earning the Best Intern Project award.
- Developed authentication and **backend with Node.js**, creating secure REST API **endpoints for PostgreSQL on AWS RDS** to enable user access, data manipulation, and efficient retrieval.
- Trained classification models to predict the difficulty in challenges, achieving a **0.91 F1 score with Decision Tree**.
- Improved code quality by deploying **92% code-covered unit tests** using Jest and performing code reviews.

PROJECT EXPERIENCE

Receipt Manager (Kalo Grant Recipient) [Link](#) | JavaScript, Next.js, MongoDB, GPT-4

- Developed a receipt tracking and budgeting application leveraging **OCR and GPT-4-driven data parsing**, helping users track expenses, reducing manual data entry time, and **improving accuracy up to 50%**.
- Empowered financial decisions with a personalized dashboard featuring visualizations, revealing spending patterns.

Marine Debris Management System (2nd HACC 23) [Link](#) | 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 (3rd HACC 22) [Link](#) | 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.

Mobile Application Security Analysis [Link](#) | 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 [Link](#) | 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 [Link](#) | Python, Pytorch, ResNet50, CNNs

- Achieved **87% accuracy in classifying Arabica coffee leaf diseases** using a diverse dataset of leaf images.
- Enhanced model generalization capabilities by 8% through the execution of image transformation techniques.

PUBLICATIONS

[1] *A Developer-Centric Study Exploring Mobile Application Security Practices and Challenges*. ICSME 2024, [arXiv:2408.09032](#)

[2] *Mobile App Security Trends and Topics: An Examination of Questions From Stack Overflow*. HICSS 2024, [arXiv:2409.07926](#)

SKILLS & INTERESTS

Languages: Python, JavaScript, TypeScript, Java, C#, C/C++, SQL, HTML/CSS

Tools/Technologies: Node.js, Express.js, React.js, Angular, ASP.NET, Vue.js, Flask, MongoDB, PostgreSQL, AWS, Git, Docker

Machine Learning Libraries: Pandas, NumPy, NLTK, Matplotlib, Sklearn, PyTorch, Tensorflow, Transformers