

MICAH TILTON

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EDUCATION

University of Hawaii at Manoa

B.S., Computer Science

Honolulu, HI

Expected Graduation Spring 2025

EXPERIENCE

CI / UH HPC Student Assistant

University of Hawaii at Manoa

Jun 2024 – Present

Honolulu, HI

- Developing a RAG Agent using LangChain/LangGraph to address questions related to UH Mānoa
- Utilizing a High-Performance Computing (HPC) environment for the design and testing of the RAG agent
- Implementing robust security measures to prioritize user safety and privacy

Computer Vision Research Assistant

University of Hawaii at Manoa

May 2023 – August 2023

Honolulu, HI

- Hawaii Trail Cam Fog Detection Using Machine Learning
- Collaborated with Change Hawaii to leverage technology in combating climate change
- Trained and tested multiple models on diverse trail cam footage from across the island
- Created a simulated dataset of trail cam footage with volumetric fog using Blender

ICS 111/211 Lab Assistant

University of Hawaii at Manoa

Aug 2022 – May 2023

Honolulu, HI

- Provided tutoring in Computer Science, focusing on problem-solving, algorithm development, and debugging/testing in an object-oriented programming language
- Offered on-campus support and answered questions to assist students during class sessions

CSP4U Summer Mentor

University of Hawaii at Manoa

Jul 2022

Honolulu, HI

- Introduced High School students to Computer Science Principles, using Python and Jupyter Notebooks for instruction
- Designed hands-on activities to teach sorting algorithms and other core concepts
- Led students in creating a Caesar cipher in Python, fostering practical coding skills

PROJECTS

Hoku RAG Agent | Full-Stack, Machine Learning, Python, React.js

Oct 2023 – Nov 2023

- Designed and developed "Hoku," a RAG Agent for delivering precise IT-related responses
- Created an API service for prompt injections and implemented a web crawler to scrape data from over 600 hawaii.edu websites
- Managed the database infrastructure to support the functionality and performance of Hoku

AI-Powered Smart Device | Python, CAD, 3D Printing, Machine Learning

Apr 2024

- Developed a compact AI-powered smart device, approximately the size of an eraser, featuring an integrated camera and Wi-Fi capabilities.
- Engineered image analysis functionality using AI to provide real-time answers from visual input

Self-Drawing Etch A Sketch | Python, C/C++, CAD, Machine Learning

Apr 2024

- Developed an autonomous Etch A Sketch utilizing handcrafted algorithms for servo motor controls
- Engineered a system capable of producing high-quality images in minutes

TECHNICAL SKILLS

Languages: Java, Python, C/C++, JavaScript, Swift, C#

Frameworks: React, Flask, FastAPI, LangChain, SwiftUI

Tools: Git, Docker, Unity, Blender

Libraries: Pandas, NumPy, Matplotlib, Tensorflow