

Luke Pagtulingan

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<https://lukepagg.github.io/>

EDUCATION

University of Hawai'i at Mānoa

B.S. Computer Science

Courses: Discrete Math I & II, Algorithms, Software Engineering I & II, Operating Systems

Spring 2025

SKILLS

Languages: Java, Javascript, HTML, CSS, React, Python, C, C++, R, TypeScript, SQL

Frameworks & Environments: React, TypeScript, NodeJS, Spring Boot, AngularJS, Meteor, Maven

EXPERIENCE

Software Engineer

August 2021 - May 2025

University of Hawai'i Systems - Identity and Access Management (IAM) Web Team

- Worked as a software engineer specialized in full-stack development, Spring Boot, and RESTful API design
- Maintained and enhanced the official UH Groupings website, increasing reliability and user engagement by implementing new features and more testing, resolving performance issues and increasing code coverage by 15%
- Built and optimized full-stack solutions with emphasis on Object-Oriented Programming using React, Spring Boot, AngularJS, Maven, Node.js, and TypeScript, resulting in improved application scalability and load times
- Created, led, and documented workshops on advanced development concepts to improve team knowledge
- Utilized agile methodologies to keep consistency in deliverables and efficiency

Lead Full Stack Developer

June 2025 - Present

University of Hawai'i Systems - Office of Procurement Management (OPM)

- Led and facilitated IT projects that streamlined procurement workflows across 10 campuses, reducing processing time and improving transparency by introducing new procurement tracking systems
- Utilized the Scrum framework to create full stack applications which introduced new communication systems between procurement specialists, vendors, and UH faculty, while also connecting all software systems together
- Redesigned and optimized the OPM website for clarity and efficiency by integrating AI-driven chatbots and automation tools, reducing customer support inquiries and improving user navigation

Mentorship Programs

Native Hawaiian Science & Engineering Mentorship Program (NHSEMP)

May 2022 - August 2023

- Computer science Kumu teacher for Na Pua No'eau & NHSEMP Summer Institute
- Taught basic computer science concepts (Python, HTML, CSS) to students grade 7 - 12 through interactive lessons

ICSpark Hawai'i

August 2024 - May 2025

- Coding mentorship program for 6th - 12th graders where I assisted with teaching and creating lessons
- Conducted our first Hackathon at UH Manoa directed towards high school students

PROJECTS

AI Hackathon: Aloha Data

Spring 2025

- Built and fine-tuned an LLM-powered chatbot to retrieve real-time data from the Hawai'i Climate Data Portal about anywhere in Hawai'i, enabling users to access any climate insights instantly
- Integrated external data sources using OpenAPI specifications and defined RESTful API schemas, ensuring seamless and secure communication between the chatbot and climate database

Software Engineering II: Financial model visualization

Fall 2024

- Worked with SPIRE Hawai'i accounting firm to transform their complex Excel-based financial model into an intuitive, interactive visualization, making financial data user-friendly and accessible to non-technical users

Senior Capstone: Graphical User Interface for ROLE Model

Spring 2025

- Developed a user-friendly GUI in R to visualize the Rules of Life Engine (ROLE) Model, enabling researchers to simulate environments and interactively analyze biodiversity predictions across multiple parameter sets