

Shizuka Takao

+1.626.489.7535 | shizukat@uci.edu | linkedin.com/in/shizukatakao | github.com/tkpp26 | shizuka-takao.com

EDUCATION

University of California, Irvine

Irvine, CA

B.S. Computer Science - Intelligent Systems Specialization, GPA: 4.00

Expected: December 2026

Relevant Coursework: Object-Oriented Programming, Data Structures and Algorithms, Introduction to Data Management, Introduction to Artificial Intelligence, Machine Learning and Data-Mining

Awards: Dean's Honors List (2024-Present)

TECHNICAL SKILLS

Intermediate: Python, Git, SQL, Flask, TensorFlow, PyTorch, AWS (EC2, S3)

Familiar: Java, C++, JavaScript, MATLAB, HTML/CSS, React, Docker, Kubernetes

EXPERIENCE

Undergraduate Researcher

June 2025 – Present

Ding's Lab, UC Irvine

Irvine, CA

- Developed a computer vision pipeline for cytoplasm segmentation guided by nucleus localization using SAM
- Enhanced image inputs using CLAHE and morphological edge detection to improve model sensitivity to faint boundaries
- Stacked multi-channel contrast and gradient features into a pseudo-RGB image, enabling structure-aware segmentation
- Developed a GUI with brush and save tools to streamline labeling and automate SAM-based cell segmentation

Break Through Tech AI Fellow

May 2025 – Present

Cornell University

Remote

- Selected from 3000+ applicants nationwide for the Break Through Tech AI Program, a highly competitive initiative aimed at diversifying the field of artificial intelligence and machine learning
- Completed a Machine Learning Foundations course and earned a certificate from Cornell University

Fabflix Movie Database Web App

April 2025 – June 2025

UC Irvine

Irvine, CA

- Built full-stack web app with **3000+** lines of code using Java, JQuery, and HTML/CSS
- Configured AWS EC2, MySQL, and Tomcat server, and imported **50K+** movie records into the database
- Designed and executed ETL pipeline to parse and ingest large XML datasets
- Optimized backend performance by **3×** using connection pooling, MySQL replication, and load balancing
- Containerized and deployed the app using Docker on a Kubernetes cluster across multiple AWS nodes

Software Engineer Fellow

July 2024 – September 2024

Headstarter

Pleasant Hill, CA

- Engaged in weekly projects to learn various frameworks and tools, including AWS, Firebase, and Next.js
- Notable projects include web-scraping "Rate My Professor" using Selenium and developing a mobile app using Kotlin

Software Engineer Intern

June 2023 – August 2023

Kasanare Corporation

Tokyo, Japan

- Enhanced query inputted by the user and implemented chatbot memory to improve chatbot's accuracy
- Conducted repeated vector search of dataset stored using Pinecone and Langchain's agents and custom tools

PROJECTS

Clothing Recommendation | *Tensorflow, Flask, React, Google Cloud Storage* | [GitHub](#) | [Demo](#)

August 2024

- Processed clothing images through ResNet50 on over 10,000 clothing items for feature extraction
- Implemented vector embedding and querying to display the top 10 clothing items with the highest similarity scores
- Implemented a cloud-based storage solution using Google Cloud and accomplished reliable image retrieval and display by storing and managing over 10,000 image URLs in a distributed manner

RecipeMakerAI | *React, Flask, TensorFlow* | [Website](#) | [GitHub](#) | [Demo](#)

June 2024 – September 2024

- Fine-tuned and trained a VGG-16 model, achieving **99%** accuracy in detecting ingredients
- Integrated with Edamam API to fetch over 50,000 unique recipes, tailored to user inputs
- Combined various datasets of vegetables, meat, and other ingredients to ensure comprehensive classification
- Developed a system that displays the ingredient label with the highest confidence level

LEADERSHIP/EXTRACURRICULAR ACTIVITIES

Hackathons: Participated in Cal Hacks 2024, Cal Hacks 2023, and Tiger Hacks 2022 | [Devpost](#)

Women in Computer Science | *Secretary:* Documented key discussions that secured funding for our initiatives

Deep Learning Society | *Inter-Council Representative:* Attended weekly meetings to discuss funding and resource allocation

Mathematics Tutor: Guided **50+** students in Calculus, Linear Algebra, Discrete Mathematics, and Differential Equations