AUDREY LU

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EDUCATION

University of California, Irvine (UCI)   Sept 2023 - Present
- Computer Science, B.S. | Informatics, B.S. | Intelligent Systems Specialization | GPA: 3.9/4.0
- Relevant courses: Data Structures & Algorithms, Computer Organization, Machine Learning & Data-Mining, Information Retrieval, Formal Languages & Automata, Linear Algebra, Statistics, Discrete Math, and more

EXPERIENCE

Software Developer | CareTech UCI   Feb 2025 - Present
- Developing healthcare applications, including preprocessing data, building and training machine learning models, and creating the user interface
- Improved melanoma classification accuracy by ~22% by building and training a Convolutional Neural Network on 25,000+ images with Adam optimization, batch normalization, and pooling

Researcher in AI & UX Design | UCI Sue & Bill Gross School of Nursing   Apr 2024 - Present
- Developing a Care Companion Robot to support dementia patients and their caregivers via empathetic and personal interactions, agitation detection, and an intelligent alert system
- Analyzed the architecture of 20+ state of the art emotion recognition models
- Team led by the Founding Dean of the UCI Sue & Bill Gross School of Nursing

Events Chair | UCI Information & Computer Sciences Student Council   June 2025 - Present
- Leading a team of ~15 organizers to plan professional, technical, and social events such as mock interviews, IoT workshops, and beach bonfires

PROJECTS

Florence | *Google Gemini, YOLO11, OpenCV, Flask, FastAPI, Next.js* | [GitHub](#), [DevPost](#)   Apr - May 2025
Won 1st place and $10,000 at the Butterworth Product Development Competition
- AI hospital surveillance dashboard and alert system
- Created the video dashboard, interactive hospital map, and synthetic hospital data, organized the dashboard and map visuals by severity of each patient's condition, and calculated summary statistics

Care Companion Robot for Dementia | *Python, WNAffect, SRoBERTa, Wav2Vec2*   Apr 2024 - Present
- Improved the robot's emotional intelligence by developing a multimodal emotion recognition model
- Creating Design Requirements using personas, daily activity maps, scenarios, and expert advice from healthcare professionals, caregivers, families of people with dementia, and others

Melanoma Detector | *Python, React.js, TensorFlow, OpenCV, FastAPI* | [GitHub](#)   Feb 2025 - Present
- Preprocessed 25,000+ images using the Dull Razor algorithm, Median Filtering, Bilateral Filtering, and Contrast Limited Adaptive Histogram Equalization
- Achieved ~87% test accuracy by building and training a Convolutional Neural Network on 25,000+ images
- Created a responsive user interface with custom React components and styling

SKILLS

Technical languages: Python, C++, R, HTML, CSS, JavaScript, TypeScript, SQL
Technologies: LangChain, React.js, Next.js, MongoDB, Express, Node.js, Git, GitHub