

ISHIKA KULKARNI

+1 (323) 747-0140 | ishika246@g.ucla.edu | <https://www.linkedin.com/in/ishikakulkarni24>
<https://github.com/IshikaK24> | <https://www.credly.com/users/ishika-kulkarni>

EDUCATION

University of California, Los Angeles (UCLA)

Los Angeles, CA | 2023 – 2027

B.S. Electrical Engineering, Expected Graduation: June 2027

Relevant Coursework: Data Structures and Algorithms, Computer Architecture, Digital Design, Signals and Systems, Deep Learning for Computer Vision, Embedded Systems, Electromagnetics, Digital Signal Processing

EXPERIENCE

AI/ML Intern

IBM, Lucknow, India | Jun 2026 – Aug 2026

- Build an image preprocessing pipeline that enhances scan quality for OCR engines such as PaddleOCR, targeting noisy, low-contrast medical prescription and clinical document images.
- Apply computer vision techniques including denoising, adaptive contrast enhancement, deskewing, and binarization to improve text region clarity before recognition, contributing to a more robust end-to-end medical OCR pipeline.

RF and Wireless Communications Researcher

Cognitive Reconfigurable Embedded Systems Lab (CORES), UCLA | Feb 2026 – Present

- Advised by Professor Danijela Cabric, IEEE Fellow and Qualcomm Faculty Award recipient; develop ML-assisted compressive phased-array radar algorithms for multi-target beam tracking in mmWave 5G/6G wireless systems.
- Design attention-based neural networks and implement compressive beamforming and sparse sensing pipelines that reduce beam-alignment overhead versus exhaustive scanning methods.
- Contribute to FPGA radar processing pipelines for mmWave sensing and beam-tracking validation.

Undergraduate Researcher Assistant

Embedded Machines and Ubiquitous Robotics Lab, UCLA | Jan 2026 – Present

- Advised by Professors Ankur Mehta and Anushri Dixit; engineered an amphibious quadrupedal robot with integrated sensing and control systems for multi-terrain navigation.
- Integrated embedded sensors and electromechanical components, significantly improving environmental perception and system robustness.
- Developed CAD-based designs and iterated prototypes to optimize performance in land and water environments.

Computer Vision and ML/AI Researcher

Visual Machines Group, UCLA | Jul 2025 – Present

- Advised by Professor Achuta Kadambi; evaluated LLM- and VLM-based coding agents on computer vision tasks, benchmarking task success rate, execution steps, and token efficiency.
- Researched and implemented Interaction-Aware Layered Generation using layered diffusion that enforces cross-layer consistency and improves editability by nearly 30%.

Software Analyst Intern

Atob Fuel Card Private Limited, San Francisco, CA | Summer 2025 | Aug 2025 – Sep 2025

- Collaborated with cross-functional teams to build a real-time fraud-detection ML model on transactional and behavioral data; queried and processed large-scale datasets in SQL and Python to support model development and deployment.
- Built the company's first end-to-end risk-scoring pipeline to predict repayment likelihood and enable proactive intervention for overdue payments, reducing false positives while improving risk classification accuracy.

Hardware Developer

Project Digital Design, Architecture and Verification, IEEE, UCLA | Sep 2025 – Jan 2026

- Designed a modular FPGA game system in SystemVerilog, integrating synchronized display output and diverse I/O peripherals.
- Engineered timing-critical logic across multiple clock domains, developed comprehensive testbenches, and optimized hardware resource usage within a collaborative team.

LEADERSHIP

Lead Resident Assistant (RA)

UCLA Residential Life | Sep 2024 – Present

- Lead event programming, peer mentorship, crisis response, and wellness and inclusion initiatives for a residential community.

Undergraduate Teaching Assistant (TA)

UCLA Physics 5BL | Feb 2025 – Jun 2025

- Facilitated hands-on lab sessions on thermal physics, fluids, waves, optics, and biochemical systems for a section of 30 students.

TECHNICAL SKILLS

Operating Systems: Windows, Linux, Unix

Databases: MySQL, Oracle, MongoDB

Programming Languages: C, C++, Java, Python, SystemVerilog, Verilog, SQL, x86 Assembly

Frameworks and Hardware: React, ASP.NET, HTML, CSS, R, JIRA, MATLAB, soldering, Arduino, FPGA

Python Libraries, ML, and Data: PyTorch, NumPy, Pandas, PyGame, OpenCV, Matplotlib, TensorFlow, PaddleOCR

Cloud Platforms: Google Cloud Platform (GCP), AWS, Microsoft Azure