

Laksh Goyal

La Jolla, CA, USA | +1 (858) 298 8940 | lakshgoyal06@gmail.com | linkedin.com/in/lakshgoyal | https://github.com/lgoyal6

EDUCATION

University of California San Diego

B.S in Computer Science, minor in Cognitive Science and Business-Economics

San Diego, CA

Sep 2024 – Jun 2028

Relevant Coursework: Machine Learning; Probability & Statistics; Operating Systems Principles; Software Engineering; Systems Programming; Computer Architecture; Linear Algebra; Algorithms & Data Structures

EXPERIENCE

Inovacity

Applied Machine Learning Intern

San Diego, CA

Mar 2026 – Present

- Building Python/PyTorch ML pipelines for 3D wound analysis using MedSAM2, DINOv2, and MONAI
- Generating synthetic wound datasets with ground-truth depth maps and tissue labels for pre-clinical model training
- Fine-tuning depth estimation and segmentation models in PyTorch to improve wound accuracy and model confidence
- Developing MAE, RMSE, and IoU validation workflows on 50+ samples for pre-clinical model evaluation

Qualcomm Institute - Engineers For Exploration

Software Engineer (Machine Learning Systems)

San Diego, CA

Jan 2026 – Present

- Built Python ingestion and indexing pipelines for multi-terabyte acoustic datasets for CNN and EfficientNet training
- Increased usable audio segments by 15% by automating audio QC and corrupted-file filtering in large-scale workflows
- Reduced preprocessing time by 10% through faster batch throughput, metadata indexing, and NAS file handling
- Analyzing focal-to-soundscape domain shift in bioacoustics using STFT, MFCC, PANNs, and WST representations
- Evaluating robustness with accuracy, F1, and distribution-shift metrics to identify the best-generalizing features

Research Engineer (Computer Vision)

Oct 2025 – Jan 2026

- Improved boundary accuracy by 9% by adding a boundary-aware IoU metric for mangrove canopy segmentation
- Refactored evaluation into a metric registry, decoupling metrics from the training loop to enable boundary-aware IoU

Xyntopia - Taskyon

LLM Systems Engineer Intern

San Diego, CA

Jun 2025 – Oct 2025

- Built a 30+ stage LLM task orchestration framework in Python powering a VS Code chat extension
- Built a token-based E2E encrypted proxy server routing LLM and third-party API requests
- Implemented server-side token verification with automated credit reporting to a Supabase payment backend
- Reduced task retries by 35% using validation checks and state-aware partial retries instead of rerunning full tasks

PROJECTS

Argus - Agentic Training Monitor | *PyTorch, FastAPI, Anthropic API, React, Supabase, Docker, AWS EC2* | GitHub

- Built an autonomous ML training agent (`claude-sonnet-4-5`) polling live JSONL every 10s to self-correct training
- Dispatched ≤ 10 tool calls/invoke via a 12-rule system prompt, resolving 49% of detected anomalies autonomously
- Engineered a SPC detector across 4 failure modes (loss spike, grad explosion, plateau, overfitting) via z-score/CUSUM
- Architected a 4-service Docker Compose stack (PyTorch trainer, LLM agent, FastAPI, React) on 3 Supabase tables
- Deployed on AWS EC2 with a React dashboard: 3 live Recharts plots, 5s polling, dual JSONL/Supabase logging

Project Liftoff - Management System | *React, Supabase, PostgreSQL, Resend, Railway* | GitHub

- Built a full-stack platform with 6-tier RBAC enforced via Supabase Row-Level Security across 13 relational tables
- Replaced Google Form intake with an application pipeline for multi-stage cohort review, onboarding 100+ users
- Designed event and points engine tracking attendance codes, per-event values, and cumulative member scores
- Integrated Resend API for tokenized transactional confirmation emails on event registration; deployed on Railway

TECHNICAL SKILLS

Languages: Python, Java, C/C++, SQL, JavaScript, HTML/CSS

Frameworks/Libraries: PyTorch, FastAPI, MONAI, React, Flask, OpenCV, NumPy, pandas, Matplotlib, Open3D

Developer Tools: Git, Docker, AWS, Supabase, PostgreSQL, Azure ML, Blob Storage, Railway, Resend, VS Code