

KOSHIK KUMARAVEL

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EDUCATION

University of California, San Diego

B.S. Artificial Intelligence (GPA: 3.92)

La Jolla, CA

Expected June 2028

- Coursework: Data Structures & Algorithms, Object-Oriented Programming, Software Engineering, Operating Systems, Machine Learning, Database Systems, Computer Networks

WORK EXPERIENCE

Fuel Cycle

Los Angeles, CA

AI Engineering Intern

Jun 2026-Present

- Designed an agentic QA automation platform using MCP servers, Agents, and Skills, auto-generating tests from Jira tickets to cut backend QA cycle time 60% across 50+ tickets/sprint to focus on TDD practices.
- Built an AI test-generation engine with Postman MCP and CLI testing suite producing 50+ adversarial, regression, and security tests per API ticket, uncovering critical pre-release auth vulnerabilities.
- Secured adoption of an AI-driven QA automation architecture as the new standard, saving a projected 10+ analyst hours weekly across 50+ tickets per sprint, by presenting the design directly to executive leadership.

UCI ProperData Research Team

Irvine, CA

Machine Learning Research Assistant

Jun 2026-Present

- Built a personality inference pipeline for UCI's PACIFIC research project, parsing datasets into Big Five trait profiles using a locally-hosted LLM, achieving structured output across all 5 personality dimensions.
- Engineered a psychometric prompt template grounded in published annotation protocols with self-consistency ensemble scoring, directly addressing a 51% reduction on output token size.
- Developed an interactive research visualization tool with a live OCEAN radar chart, latency instrumentation, a chat interface for real-time personality inference, and 1-10 confidence scores to establish reasoning.

Priyum Products

Irvine, CA

Software Engineering Intern

May 2025-September 2025

- Engineered a Python/Flask image-processing pipeline that auto-detects and redacts dimensional-weight data from shipping label PDFs, eliminating manual cropping on 300+ labels/month for a small business.
- Automated the label workflow by integrating Shippo and Shopify REST APIs (order lookup, label purchase, PDF cleanup) into one CLI command or image upload, cutting a 4-step manual process to 1 step.
- Built a pytest-covered, Dockerized Flask service processing multi-page/multi-label PDFs under 400MB peak memory, enabling reliable Gunicorn deployment on Render with zero on-disk data persistence.

PROJECTS

Movie Recommender

March 2026-May 2026

Python, Pandas, NumPy, Scikit-learn, SciPy, MovieLens 100K, Jupyter Notebook

- Built a recommendation system combining collaborative filtering (SVD) and content-based models on the MovieLens 100K dataset, reaching an RMSE of 0.94 after hyperparameter tuning..
- Engineered a reusable evaluation pipeline to benchmark 5 algorithms on sparse rating matrices, automating preprocessing and model comparison.
- Validated model performance against a popularity-baseline using k-fold cross-validation, packaging accuracy, coverage, and cold-start tradeoffs into a reproducible evaluation report.

All Studio

May 2026-June 2026

Node.js, React, Spring Boot, JWT Authentication, Vite, Tailwind CSS

- Engineered a full-stack boutique fitness CRM in Spring Boot, React, and PostgreSQL featuring a churn prediction algorithm that reduced client drop-off identification time from 2 weeks to real-time.
- Built a SaaS prototype with JWT auth, automated nightly scoring jobs across 50+ client profiles, and a retention messaging system with 5 templated outreach flows, reducing manual reengagement efforts.
- Deployed the platform with CI/CD via GitHub Actions and wrote unit/integration tests covering the churn-scoring logic and core API endpoints for automated regression coverage.

SKILLS & INTERESTS

Languages: Python, Java, C++, JavaScript, SQL (PostgreSQL), HTML/CSS, PHP, TypeScript, Bootstrap

Frameworks & Libraries: React, Node.js, Express, Spring Boot, scikit-learn, Pandas, NumPy, Matplotlib

Tools & Practices: GitHub, Linux, Bash, Docker, Postman, REST APIs, CI/CD, Agile, Code Review, Unit Testing

AI & ML: LLM integration, MCP, Agent2Agent, prompt engineering, skill development, recommender systems