

# Pratik Gurung

San Mateo, CA

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## Education

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**University of California, Santa Cruz** — B.S. in Computer Science Jan 2023 – May 2026

Relevant Coursework: Data Structures, Machine Learning, Deep Learning, Distributed Systems, Operating Systems, Web Applications, Artificial Intelligence, Intro to Natural Language Processing, Analysis of Algorithms

## Technical Skills

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**Languages:** Go, Python, JavaScript, C++, SQL

**Frameworks:** Spring Boot, Django, Node.js, React, .NET Core

**Cloud & DevOps:** AWS, Azure, Docker, Kubernetes, Jenkins, Git, CI/CD

**Data & AI:** Pandas, NumPy, TensorFlow, PyTorch, Scikit-learn

**Databases:** PostgreSQL, MySQL, MongoDB, Redis

**Messaging:** Kafka

**Concepts:** Microservices, Distributed Systems, REST APIs, Agile/Scrum, Secure SDLC

## Experience

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**Software Engineer Intern** — Stanford University

May 2023 – Aug 2023

- Built **data-processing microservices** in **Python** to support large-scale analytics workflows, improving lookup accuracy by **15%**.
- Developed **ETL pipelines** using **Pandas** and **NumPy** for structured and unstructured research data.
- Applied **machine learning algorithms** (K-means, UMAP, DTW) to enhance clustering and time-series analysis, increasing pattern detection accuracy by **21%**.
- Containerized analytics tools using **Docker** and collaborated in an **Agile environment** with **Git-based CI workflows**.

**Software Engineer** — Cotiviti

Oct 2019 – Apr 2021

- Designed and implemented **scalable backend services** using **Java**, **C++**, and **.NET Core** within a **microservices architecture**.
- Built and consumed **RESTful APIs** supporting high-volume healthcare transaction systems.
- Deployed containerized applications to **Microsoft Azure** using **Docker**, improving service reliability.
- Optimized **SQL databases**, reducing query latency by **15%**.
- Implemented **CI/CD pipelines** using **Git** and **Jenkins**, accelerating release cycles and reducing defects.

## Projects

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### Cloud-Native AI Analytics Platform

- Built a microservices-based platform using Go and Python, containerized with Docker and orchestrated via Kubernetes.
- Integrated Kafka for real-time data streaming and deployed on AWS with automated CI/CD pipelines.

### StudyBudd — AI-Powered Learning Assistant

- Designed and implemented a Retrieval-Augmented Generation (RAG) pipeline enabling context-aware answers from user notes, PDFs, and course materials.
- Built AI agents for task routing, study planning, and question answering, coordinating multi-step reasoning workflows.
- Implemented embeddings + semantic retrieval to ground LLM outputs and reduce hallucinations.
- Developed a full-stack app using Next.js/React and PostgreSQL with scalable backend APIs.

### LLM Failure Analysis and Debugging Toolkit

- Built a Python framework to run prompts, log responses, and analyze latency and failure patterns.
- Implemented structured JSONL logging to enable reproducible evaluation and debugging of LLM behavior.