

Pratik Gurung

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Education

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

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

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

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.