

Anup Sedhain

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Experience

- Software Engineer**, Airvet Inc. – Los Angeles, CA May 2025 – Present
- Led development of Airvet's parent-facing web application and spearheaded research into veterinary AI diagnostic tools leveraging RAG architecture with Langchain
 - Architected AI-driven automation using Model Context Protocol (MCP) to streamline end-to-end regression testing workflows, reducing QA time by 80% and accelerating feature-to-release cycles from 4 weeks to 2 weeks
 - Engineered end-to-end automated development pipeline integrating JIRA, Figma, and GitHub with MCP agents, enabling automated releases while maintaining 99.9% deployment success rate
- Graduate Research Assistant**, University of Florida – Gainesville, FL Jan 2025 – Jun 2025
- Developed social media analysis system processing 2M+ BlueSky events using BERT neural networks, K-means clustering, and TF-IDF scoring to achieve 92% AI content detection accuracy
 - Implemented temporal social network analysis using NetworkX and PageRank algorithms on HiPerGator HPC cluster to track attitude evolution and influence patterns across 45-60 minute processing pipeline, generating publication-ready research insights for computational social science
- Software Engineer**, Airvet Inc. – Los Angeles, CA May 2021 – Jul 2024
- Architected Care Portal with React, Next.js, Redux, and Golang enabling vet-techs to handle 100+ concurrent cases through real-time chat and video, accelerating response times by 75%
 - Optimized real-time system performance using Server-Sent Events and WebSocket streaming with Redis caching, supporting 100+ concurrent cases with sub-200ms latency and 99.9% uptime
 - Built analytics ecosystem with Firebase Analytics, Amplitude, and LogRocket, providing insights across 10,000+ vet-tech sessions and continually iterating on the product, resulting in almost 100% client retention
- Software Engineer, Freelance**, Polydelic AS – Oslo, Norway Aug 2020 – Jun 2021
- Delivered 6+ SaaS platforms using React, Node.js, GraphQL, and AWS through cross-functional collaboration with product and design team, helping secure millions in funding and serving 50,000+ users with 99.9% uptime
 - Engineered distributed video streaming platform (Ultify) with microservices architecture supporting 10,000+ concurrent users, implementing load balancing, service mesh communication, and Redis-based caching layers
 - Launched artist booking marketplace (Rubato) utilizing Elasticsearch and automated contract processing with GraphQL APIs, facilitating €100K+ monthly transactions
- Software Engineer**, Leapfrog Technology Inc. – Kathmandu, Nepal Jul 2019 – Dec 2020
- Spearheaded enterprise project management platform development using Firebase and LitElement with automated workflows, accelerating delivery timelines by 40% for 50+ projects
 - Helped build bio-informatics application managing protein workflows with MySQL database and Micronaut, supporting 200+ batches monthly and improving processing efficiency by 25%

Education

- University of Florida**, Master of Science in Computer Science, GPA 4.0 Aug 2024 – Dec 2025
- Kathmandu University**, Bachelor of Computer Engineering, GPA 3.63 Sep 2015 – Jul 2019

Technical Skills

AI/ML: MCPs, RAG, Langchain, Vector Databases, Hugging Face, Ollama, TGNNs, ML Pipelines
Programming: Python, TypeScript, JavaScript, Go, C++, Node.js, Java, Rust, OpenMP, MPI
Frontend: React, Next.js, Redux, Tailwind CSS, WebRTC, WASM, Real-time Systems
Backend & Data: PostgreSQL, MongoDB, Redis, Firebase, Elasticsearch, Spring Boot, RESTful APIs, GraphQL
Cloud & DevOps: AWS, GCP, Docker, Kubernetes, GitHub Actions, CI/CD, Kafka