Prajwal Ghoradkar

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Education

Stony Brook University New York, USA
Masters of Science in Computer Science - GPA: 3.83/4 Aug 2024 - May 2026
Courses: Distributed Systems, Operating Systems, Machine Learning, AI

National Institute of Technology Calicut Calicut, India
Bachelor of Technology in Computer Science - GPA: 3.42/4 Jul 2016 - May 2020
Courses: Database Systems, Networking, Object Oriented Programming, Data Structures, Algorithms, Cloud Computing

Skills Summary

Languages: Python, Golang (Go), Java, JavaScript, TypeScript, C++, C, HTML, CSS
Web: Django, FastAPI, Flask, ReactJS, Spring
Database: PostgreSQL, MySQL/SQL, Redis, MongoDB, DynamoDB
Machine Learning/Deep Learning: PyTorch, Tensorflow, NumPy, Pandas, SciPy, Scikit-Learn, Open-CV
Tools: Linux/Unix, Celery, Kafka, RabbitMQ, Git/GitHub, Visual Studio, Cursor, Jupyter, Azure
Other: Docker, Kubernetes, GraphQL, AWS EC2/Lambda/SQS/SES/VPC/Route53/CloudWatch, Containerization, Agile, CI/CD

Experience

World Bank Group – IFC | Software Engineer Intern (GenAI) Jun 2025 - Aug 2025, Washington DC

- Engineered a **Retrieval-Augmented Generation (RAG)** pipeline for the EDGE green certification platform, integrating **Azure OpenAI and Cosmos DB on FastAPI backend** to deliver fact-grounded answers from **500+** sustainability documents.
- Optimized **semantic search performance via hybrid BM25 + vector retrieval** and **re-ranking**, reducing average query latency from **4s to under 1.8s** while maintaining **95%+** groundedness in LLM-generated responses.
- Improved user experience by implementing **citation-linked answers, prompt optimization, and feedback logging**, resulting in a **35% increase** in correct and contextually relevant responses during pilot testing.

Cisco | Software Engineer II (Python, Golang) Aug 2020 - Jul 2024, Bangalore

- Developed end-to-end scalable **notification system** utilizing **AWS SES and SQS**; facilitated transmission of **10,000+ daily notifications with a 99.3%** delivery success rate.
- Implemented **heartbeat mechanism** to maintain **sessions**, **preventing timeouts** and ensuring consistent user experience.
- Enhanced the **task processing system for overlay operations** consisting of **Cron** and **Celery** with **RabbitMQ**, enabling efficient task scheduling and **asynchronous execution**, improving system reliability and scalability by **12%**.
- Integrated **LLM-powered chatbot** on vManage portal with **REST API Backend**; facilitated **100+ customer interactions daily**, achieving a **4.8/5 satisfaction rating**, and increased customer engagement.
- Developed features for SD-WAN's **infrastructure orchestration and monitoring** portal, enhancing network health tracking.
- Automated the SD-WAN overlay **license expiration process**, reducing the workload for CloudOps engineers and driving a **78% reduction in support tickets** related to license issues.
- Developed an **ML application** to identify collateral bugs, enabling QA engineers to discover relevant test cases, resulting in a 23% increase in collateral bug detection.

Projects

PBFT Protocol for Banking Transactions (Distributed Systems)
Tech: Go/Golang, PBFT, gRPC, Distributed Systems

- Coded a Byzantine Fault-Tolerant system in Go with **3000 clients and 7 servers**, achieving fault tolerance and liveness through **view-change and checkpointing**, and security with cryptographic signature verification.
- Optimized scalability by linearizing BFT communication from $O(n^2)$ to $O(n)$, benchmarking a throughput of **70 transactions per second with an average latency of 14 ms**.

Modular E-commerce Backend Platform with Go Microservices
Tech: Go, GraphQL, Docker, Kubernetes, gRPC, PostgreSQL, Redis

- Built a **GraphQL gateway layer** in **Go** to unify service APIs, reducing client–server coupling and improving data fetching efficiency.
- Containerized services using **Docker** and deployed with **Kubernetes**, enabling scalable orchestration, health checks, and CI/CD integration for automated rollout and monitoring.

Blockchain Based Supply Chain Role Play Game (Full Stack, Web3) (Paper) (Patent)
Tech: Solidity, Ganache, TypeScript, Javascript, Node.js, React.js

- Developed a **Blockchain version** of the **Beer Distribution Game**, resulting in a **20% decrease in inventory holding costs**.
- Designed and launched a **decentralized application (DApp) on Heroku cloud platform**, improving transparency for stakeholders.

Interpreting Vanity License Plate using LLMs (Fine Tuning)
Tech: Python, Pandas, Numpy, PyTorch, HuggingFace, Transformers

- Fine-tuned **LLaMA model** for personalized license plate interpretation using **LoRA adapters** and learning rate scheduling, cutting training cost and time while improving inference accuracy on domain-specific data.
- Curated and augmented a custom dataset with targeted preprocessing and tokenization; evaluated model outputs with **BLEU** and **ROUGE** metrics to ensure semantic correctness and robustness.