Ayush Sharma

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Education

New York University — Brooklyn, NY
Masters of Science in Computer Science — *Aug 2025 – Present*

Vellore Institute of Technology — Vellore, TN
Bachelor of Technology in Computer Science | ***CGPA:*** *8.73* — *Jul 2019 – Jun 2023*
Coursework: Data Structures, Algorithms, Databases, Computer Networks, Operating Systems, AI, Cybersecurity

Experience

Software Engineer 1 — Jan 2023 – Jul 2025
Hewlett Packard Enterprise — *Bengaluru, KA*

- Migrated NFV apps from VM-based deployment to K8s, **improving scalability**, **reducing deployment time.**
- Created distroless images for **faster deployment** and a **75% reduction in storage footprint**. **Reduced CVE attack surface by 90%** through automated dependency management ensuring up-to-date packages.
- Orchestrated data aggregation with **monitoring and alerting of 100+ metrics** using Prometheus and Grafana
- Integrated Azure Speech Services (ASR/TTS) with SIP/RTP stack, **leveraging experience with media server protocols** like Netann/MSCML and MSML for enabling real-time transcription and voice-controlled IVR.
- Led a team to develop and **present at the Mobile World Congress 2024**, a scam detection model utilizing Azure Cognitive Speech Service for Speech-to-Text to safeguard users during live voice calls.
- Designed and developed a license generation tool **adopted by 8 teams**, featuring tamper-proof licenses, APIs for license management (expiry, additive, instant-on, perpetual, active/standby), and monitoring via Fluentd events
- **Reduced testing cycles from days to 1 hour and enhanced application security** by creating CI/CD Jenkins pipelines to **assess code quality with 90% coverage**, integrating Selenium test framework for end-to-end GUI feature automation, and conducting penetration testing to detect XSS and CSRF attacks.

Research Intern — Oct 2021 – April 2022
Samsung R&D Institute — *Bengaluru, KA*

- Developed a C++ library supporting 6 protocols for client-server communication in a mesh environment.
- Optimized library achieving **10% lower latency and 15% higher throughput** than standard TCP through multi-threading, async I/O, compression, connection pooling, ProtoBuf serialization, and zero-copy techniques.

Machine Learning Research Intern — Mar 2020 – June 2020
Indian Institute of Technology — *Kanpur, UP*

- Developed custom DenseNet-based CNN models with advanced techniques including data augmentation, batch normalization, adaptive learning rate scheduling, and regularization
- Achieved **15% higher accuracy** than traditional ConvNet and VGG16 models under resource constraints.
- Conducted comparative analysis of CNN variants focusing on training complexity and vanishing gradient solutions
- **Published findings in the IJSER journal**, with recommendations for unsupervised learning and parallel training algorithms. [Paper]

Projects

Log Ingestor and Query Interface | *Go, Kafka, Zookeeper, InfluxDB, Docker* [Project]

- Engineered distributed log ingestion service in Go handling high-throughput gRPC/REST data with Kafka pub/sub, Zookeeper clustering for high availability, and InfluxDB time-series storage for scalable log analytics.

CV Scorer | *Typescript, Python FastAPI, MongoDB, Docker* [Project]

- Developed AI-powered resume scoring system using local LLMs (Ollama, Gemini-2.0-flash) and Hugging Face models with interactive visualizations displaying historical resume scores and progress tracking for data-driven user insights. Implemented secure OAuth2/JWT authentication. Automated CI/CD deployment via GitHub Actions.

Technical Skills

Languages: Java, Python, C/C++, Golang, SQL, MATLAB
Frameworks/Libraries: Agile, FastAPI, NLTK, Pandas, Tensorflow, Selenium, JUnit, BeautifulSoup
Tools/Technologies: Git, Docker, Kubernetes, Prometheus, Grafana, Kafka, Elasticsearch, Postman, Jenkins, Jira
Certifications: Certified Kubernetes Application Developer, AWS Certified Cloud Practitioner