

Asmi Umesh Pulgam

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SUMMARY

Software Engineer pursuing a Master's in Computer Science at Arizona State University with 1.5+ years of industry experience in building scalable applications and AI/ML models. Expert in developing data-driven systems with a strong foundation in software architecture and engineering practices. Currently seeking a Software Development Engineer (SDE) internship for Summer 2026.

EDUCATION

Arizona State University, Tempe Aug 2025 - May 2027
Master of Science in Computer Science GPA: 4.00 / 4.00

- Coursework:** Statistical Machine Learning, Foundations of Algorithms, Cloud Computing, Software Design, Data Mining, Blockchain Technology, Artificial Intelligence, Information Security

Savitribai Phule Pune University Aug 2021- May 2025
Bachelor of Engineering in Computer Engineering |Honors in Data Science GPA: 8.50/10.00

- Coursework:** Data Structures and Algorithms, Object-Oriented Programming, Software Engineering, Operating Systems, System Design, Database Management Systems, Web Application Development, Cloud Computing, Machine Learning

TECHNICAL SKILLS

Programming Languages: Java, Python, JavaScript, Go, TypeScript
Frameworks: Spring Boot, Django, Flask, FastAPI, React.js, Next.js, Angular, Node.js, Express.js
AI/ML: TensorFlow, PyTorch, Keras, LangGraph, RAG
Big Data & Databases: SQL (MySQL, PostgreSQL), NoSQL (MongoDB), Apache Spark, Kafka, Vector DB (Pinecone)
Tools: Git, GitLab, GitHub, Jenkins, Ansible, Vercel, Netlify, Prometheus, Terraform, JIRA
Cloud Platforms: AWS (EC2, S3, Lambda, DynamoDB, EKS, SQS, ELB, CloudFormation, CloudWatch, IAM), GCP (Compute Engine, GKE, Cloud Run, Cloud Storage, IAM), Docker, Kubernetes, CI/CD

WORK EXPERIENCE

Infosys Finacle Pune, India
Software Developer Intern Feb 2024- Aug 2025

- Developed scalable, cloud-native full-stack systems and migrated 15+ SOAP APIs to RESTful microservices using Java, Spring Boot, React, Angular, TypeScript, MongoDB, and AWS; reduced latency 35% and improved maintainability 50%.
- Engineered data quality and banking automation pipelines using React, regex, Python, SQL, and ETL scripts; cut data errors 40%, reduced manual effort 70%, and ensured 99%+ data fidelity for analytics, ML, and forecasting models.
- Orchestrated CI/CD and containerized deployments with Jenkins, GitLab, Docker, and Kubernetes; achieved 85% automation, 60% faster releases, and 30% AWS cloud cost reduction via tuning, caching, and query optimization.

TECHNICAL PROJECTS

Geo-Distributed Health Records Database System

- Architected and deployed a geo-distributed healthcare database system using MongoDB, CockroachDB, SQL, and Docker, achieving 99% data availability, high fault tolerance, and seamless multi-region access.
- Engineered replication and consistency mechanisms with optimized SQL schemas across MongoDB and CockroachDB clusters, reducing cross-region read latency by 30% and increasing query throughput by 25% under high distributed load.

Hate Speech Classification Using Small Language Models

- Developed a privacy-preserving hate speech detection system using Small Language Models (TinyLlama, Qwen2.5, MiniCPM) with PyTorch and Hugging Face Transformers, enabling 100% on-device inference for data confidentiality and GDPR compliance.
- Optimized model performance using LoRA fine-tuning, 4-bit quantization (QLoRA), and CUDA acceleration, achieving 70-75% accuracy, reducing training time to 2 hours on a 4GB GPU, and improving offensive content recall from 39% to 55%.

Autonomous Navigation and Shopping Smart Cart

- Engineered an AI-powered autonomous smart cart prototype using computer vision algorithms, incorporating machine learning-based path planning for real-time localization in a mock store, achieving 98% obstacle avoidance optimization.
- Developed and trained deep learning models for product detection using YOLOv5 (CNN-based object detection), PyTorch, OpenCV, and RFID integration, applying supervised learning and model optimization techniques to achieve 95% identification accuracy.