Ganesh Prabakaran

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PROFESSIONAL SUMMARY

Software engineer with 3 years of professional experience building backend and full-stack systems for enterprise SaaS and consulting engagements. Strong Python and Java experience across service development, integrations, and automation. Hands-on with RESTful APIs, Spring Boot, Flask, React, Docker, Jenkins, Kubernetes and AWS. Proven ability to convert research prototypes to production-ready CUDA-enabled pipelines, optimize throughput and reliability, and deliver measurable operational improvements.

Technical Skills

Languages: Python, Java, Langchain, GOSU, C/C++, SQL, JavaScript, TypeScript, HTML, R
Web Development: Spring Boot, MVC, React, Angular, Flask, Hibernate, Maven, Node.js
Databases: MySQL, MongoDB, PostgreSQL, NoSQL
Cloud and DevOps: AWS, Docker, Kubernetes,Azure
ML/Data Engineering: TensorFlow, Keras, PyTorch, Scikit-Learn, CUDA, Kafka, Spark, Hadoop
Tools/Technologies: Guidewire Studio, COLMAP, Git, REST API, Unix/Linux, Postman, Jira, JUnit

Experience

State University of New York Buffalo, NY
Research Assistant / Graduate Assistant May 2025 – Present

- Optimized a high-fidelity 3D reconstruction pipeline by fusing NeRF research code with multi-view stereo; ported and debugged research prototypes for CUDA-enabled workstations to improve training stability and runtime performance.
- Implemented production-grade utilities to extract depth/disparity, generate point clouds, normal maps and triangle meshes from real capture datasets; authored end-to-end pipeline documentation and presentation-ready evaluation reports for stakeholders.
- Teaching support: assisted Professor Naeem Maroof for CSE 587 (Data Intensive Computing), collaborated with TAs to explain complex concepts to 200+ students, graded assignments/projects/exams, and provided targeted feedback to improve understanding of large-scale data processing.

Hexaware Technologies Chennai, TN
Associate Software Engineer Mar 2022 – Nov 2023

- Integrated third-party VIN services and customized Refresh/Retrieve flows to auto-populate vehicle and policy data from external rating engines, reducing manual entry errors and effort by **30%**.
- Configured SmartCOMM integration with Guidewire PolicyCenter: coded document triggers and data-field mappings to automate generation of policy schedules and endorsement letters, reducing manual document prep time by **25%**.
- Developed 10+ PCF views/pages for endorsements and mid-term adjustments to improve user navigation and cut support tickets by **18%** while ensuring regulatory compliance.
- Built and maintained Jenkins jobs for PolicyCenter deployments to Dev and QA; monitored CI pipelines and alerted teams on failures, contributing to a **20%** reduction in deployment downtime.
- Formulated test plans and reports suitable for automation, increasing QA throughput by **45%**; led cross-team JIRA triage in an agile setup to identify 50+ critical/high issues and prevent post-deployment incidents.

Projects

Autonomous Blog-to-Podcast Agent | *Python, LangGraph, Groq LLM, Tavily, ElevenLabs* Apr 2025

- Architected a cyclic, stateful AI workflow using LangGraph to convert unstructured blog text into structured podcast scripts, utilizing self-correcting feedback loops to ensure narrative consistency.
- Engineered Pydantic-based quality guardrails that autonomously reject and regenerate sub-optimal scripts, achieving **100%** adherence to strict formatting and duration constraints (4-6 minutes) without human intervention.
- Enhanced the production pipeline by integrating Groq LPU inference and ElevenLabs API, generating full audio episodes in under 60 seconds while maintaining a zero-cost infrastructure on free-tier services.

TransLingua: Real-Time ASL to Text | *Python, OpenCV, MediaPipe, TensorFlow* Apr 2025

- Designed a real-time pipeline combining MediaPipe hand-landmark tracking with a motion-based switch to route inputs to either a CNN (static signs) or LSTM (dynamic phrases).
- Achieved **92%** overall accuracy and sustained **30 FPS** on CPU under varied lighting and signer profiles; documented model evaluation and deployment steps.

Text Summarization using Deep Learning | *Python, Keras, TensorFlow* Jan 2025

- Trained LSTM/GRU/RNN models on large Hugging Face datasets; LSTM achieved the best ROUGE metrics after hyperparameter tuning (improved summary precision by **18%**
- Deployed a Flask API to reduce document processing time by **30%** for front-end clients.

Personalised Job Recommendation System | *Python, NumPy, Pandas, Scikit-learn, Flask* May 2024

- Constructed an SVM-based recommendation model on 1.3M LinkedIn listings, increasing recommendation accuracy by **22%**.
- Deployed a Flask web app for real-time recommendations; reduced average job search time for users by **40%**.

Education

M.S. in Computer Science and Engineering (GPA: 3.6/4.0) Jan 2024 – Jun-2025
State University of New York, Buffalo, NY

B.E. in Computer Science and Engineering (GPA: 8.1/10.0) Sep 2017 – Jun 2021
Anna University, Tamil Nadu, India