Gnana Heemmanshuu Dasari

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Backend Software Engineer with experience building fault-tolerant, low-latency distributed systems and secure multi-tenant services in production environments, with hands-on exposure to modern AI/LLM infrastructure and developer tooling.

Experience

Nutanix – Intern, Database Services | *Python, Golang* *Jun 2025 – Sep 2025*

- **Reliable Provisioning Workflows** — Built fault-tolerant database provisioning workflows with resumable execution semantics, scaling safe concurrent VM operations **50→500** using a Temporal-like workflow orchestrator.
- **Control Plane Latency Analysis** — Benchmarked end-to-end request latency through a Flask-based proxy integrating Prism Central SDKs, demonstrating only **7 ms** overhead and enabling a safer multi-cluster snapshot flow.
- **Cloud-Orchestrated VM Lifecycle** — Implemented VM provisioning and power-on tasks in a Golang-based, vendor-agnostic execution service, orchestrating cloud calls across **AWS**, **GCP**, and on-prem control planes.

Xu Lab, UC Irvine – Research Assistant | *Python, MATLAB* *Mar 2025 – Jul 2025*

- **Constraint-Safe Geometric Optimization** — Reframed a medical image alignment problem to explicitly prevent invalid geometric transformations, formulating it as a constrained optimization task with hard correctness guarantees.
- Developed a windowed optimization strategy using SLSQP to enforce topology-preserving constraints (positive Jacobians), reducing runtime from **19,000s to 20s** on moderate inputs and scaling to large images (320×456) in **600s** with **100% success** in eliminating invalid solutions.

Oracle – Software Engineer, Application Integration | *Java, XML* *Jun 2023 – Jul 2024*

- **Legacy SOA → OIC Migration Pipeline** Designed a proof-of-concept migration pipeline to modernize legacy SOA integrations, converting complex workflow constructs (BPEL, partner links, loops) into OIC-compatible artifacts via structured XML transformation, demonstrating feasibility and projecting **$2M** in internal infrastructure savings.
- **Secure Multi-Tenant Notification Service**
  - Built a sender verification system with REST APIs, OTP-based onboarding, and Redis-backed enforcement to prevent spoofing across a multi-tenant platform while maintaining backward compatibility.
  - Instrumented Grafana metrics to detect misuse, securing **50K+** email addresses, reducing spoofing by **90%**, and sustaining **99.9% uptime** with zero-downtime deployments.

Projects

EOMM Matchmaking Engine | *Apache Flink, Kafka, Docker*
Built a scalable, fault-tolerant **open-source matchmaking system** for player engagement, outperforming SBMM by **15%**

ScalaF : Scala Refactoring Plugin (Scala Workshop 2025) | *Scala, Scalameta*
Built a VSCode plugin to refactor OO Scala code into idiomatic functional patterns using static analysis and metaprogramming

Adaptive LoRA Caching for Multi-Tenant LLM Serving | *PyTorch, Systems Benchmarking*
Built a GPU-side cache for LoRA adapters with LRU/LFU and workload-aware prefetching, reducing cold-load latency by up to **50 ms** and analyzing **P99 trade-offs** under bursty multi-tenant workloads

Distributed Inference Scaling (DiTTo) | *PyTorch, NCCL*
Parallelized Chain of Thought-style inference using multi-GPU generation and PRM reranking, cutting latency **4×**

Aletheia: Agentic Root Cause Analysis Tool (Nutanix Hackathon 2025) | *Python, LangChain, LLMs, MCP*
Built Aletheia, an **agentic LLM**-powered system for root cause analysis of log bundles using **tool-augmented reasoning**

Education

University of California, Irvine *Sept 2024 – Mar 2026*
M.S. in Computer Science, Specialization in Distributed Systems **GPA: 4.0/4.0**
Key Courses: Distributed Systems, Middleware, Computer Security, ML, Communication Networks

Indian Institute of Technology (IIT) Bombay *Jul 2019 – May 2023*
B.Tech (Hons) in Computer Science and Engineering **GPA: 8.5/10**, JEE Advanced Rank: **184**
Key Courses: Operating Systems, NLP, ASR, Computer Vision, Data Structures

Skills

Languages	Java, Python, C++, Go, Scala, Bash
Systems	REST APIs, Microservices, Docker, Kubernetes, Kafka, Flink, CI/CD, Jenkins, Maven
AI & Tooling	PyTorch, HuggingFace, Transformers, spaCy, AI-assisted development (ChatGPT, Cursor); Agile, Scrum