

Arin Mallanna Tumbagi

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EDUCATION

Indian Institute of Technology Madras - B.Tech, Ocean Engineering (2021 - 2025). JEE Advanced: top 0.2% of ~1.1M candidates.

EXPERIENCE - SOFTWARE ENGINEER, SAVIYNT (JUN 2025 - PRESENT)

- **License Intelligence (latest).** Inference engine over access data finding SAP license waste: live-computed findings with dollar savings, one action creating removal tasks, state that survives the nightly refresh. Validated 51/51 against live APIs.
- **SoD evaluation rebuild.** Rebuilt a 21-hour compliance check to ~3 minutes end to end (2 s compute, 256 MB) with byte-identical output: single hierarchy pass plus bitset intersection.
- **Streaming exports.** Compliance reports of unbounded size as Excel-in-ZIP to S3 at flat 7 MB memory (15M+ rows proven): paged reads, 50-row window, multipart upload.
- **Audit ingestion.** Exactly-once privileged-access audit logs at 50K+ events/s across 300+ tenants on AWS, Azure and GovCloud (Kafka/Avro, idempotent sinks).
- **AI safety + fraud agents.** SoD engine for Copilot Studio agents (5 risk patterns, ~22 ms checks); bounded ReAct fraud investigators with verified evidence and a 0.70 confidence gate to human review.
- **Security initiatives.** Twice on company-wide Tiger Teams: injection/access-control remediation, mTLS rollout, test coverage 30% to 80%.

SELECTED PROJECTS

- **s3-outputstream (Java, OSS).** OutputStream-to-S3 bridge at fixed 5 MB memory; answers a 4-year AWS SDK gap.
- **Nostos / kv-router (Go).** KV-cache-aware LLM router: radix-tree prefix affinity with load-aware scoring.
- **gpt2-cpp (C++17).** Dependency-free GPT-2 to greedy decode in 7 commits, 5 correctness tests green.
- **context-lattice (Python, MCP).** Source-verifiable conversation memory for coding agents.

SKILLS

Java, Go, Python, TypeScript, C++/CUDA; Kafka/Avro, OpenSearch, MySQL, Redis, S3; PyTorch; MCP.

ACHIEVEMENTS

LeetCode Guardian (2100+), Codeforces Expert (1602), Meta Hacker Cup 2024 Round 2; merged upstream PR to OpenSearch; Team Abhiyaan external relations (IIT Madras).