

# Vishnu Vardhan Manivannan

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## WORK EXPERIENCE

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### Volunteer Software Engineer, Saayam For All (Non-Profit Platform)

May 2025 – Present

- Implemented user-facing backend functionality in AWS production systems, enabling user profile updates and secure object storage via S3.
- Supported ECS-based deployments and IAM configurations, using CloudWatch for monitoring.

### Software Development Engineer L1, HipBar Pvt. Ltd., India (FinTech / Payments) June 2019 – Dec 2021

- Led the design and development of a fully in-house promotion engine, replacing an expensive third-party application and reducing revenue expenditure by 72%.
- Reduced API latency and cut database reads by 40% by caching user authorization/identity metadata in Redis (RBAC + user context lookups).
- Improved concurrency and runtime efficiency by migrating 33% of core Python microservices to Go using Gin and gRPC, including rewriting handlers and updating service workflows.
- Improved scalability under load by introducing NATS/RabbitMQ-based asynchronous workers that offloaded notifications and event processing from the main request path.
- Improved service-level observability by integrating Jaeger-based distributed tracing and Sentry monitoring across microservices, enabling clearer end-to-end request flows.
- Enhanced backend stability by expanding test coverage, handling environment variables and secrets for owned services, and building Docker images used directly in CI/CD deployments.

## PROJECTS

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### GoDrive (Cloud Storage Backend)

Sept 2025 – Nov 2025

- Built a production-style cloud storage backend using Go microservices, gRPC, and JWT-based authentication, with clear boundaries for auth, metadata, and file operations.
- Enabled secure, time-limited client uploads and downloads by implementing MinIO presigned URL flows.
- Improved data organization and lookup efficiency by designing normalized PostgreSQL schemas with indexing and soft-delete support.
- Added background automation by developing NATS workers to insert file metadata after uploads and schedule permanent deletion of expired objects.
- Ensured reproducible development environments by containerizing all services—including gateway, metadata, storage, DB, NATS, and MinIO—using Docker Compose.

## SKILLS & TOOLS

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**Programming:** Golang, Python, C++

**Databases:** PostgreSQL, MySQL, Redis, Memcached, MinIO

**Backend:** Gin, gRPC, Docker, Messaging Queues (NATS, RabbitMQ, ZeroMQ)

**Cloud:** AWS (S3, ECS, IAM, CloudWatch)

**Observability:** Sentry, Kibana, Jaeger

**Tools:** Git, GitHub, Linux/Unix, VSCode, Vim, Jira, ClickUp

## EDUCATION

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### University at Buffalo, The State University of New York

Aug 2023 – Dec 2024

Master of Science: Industrial Engineering (Data Analytics Concentration)

GPA: 3.51/4.0

### Imarticus Learning

Jan 2022 – Oct 2022

Graduate Certificate: Data Analytics and Machine Learning

GPA: 9.61/10

### SRM Institute of Science and Technology

2015 – 2019

Bachelor of Technology: Electrical and Electronics Engineering (EEE)