Vishnu Vardhan Manivannan

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WORK EXPERIENCE

Software Development Engineer L1, HipBar Pvt. Ltd., India   *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%.
- Lowered API latency and cut database lookups by 40% by integrating Redis caching into authentication.
- 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

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.

Wikipedia Web Traffic Forecasting   *Sept 2023 – Dec 2023*

- Built an ensemble forecasting model combining ARIMA and LSTM to predict 18 months of Wikipedia page views, applying large-scale preprocessing on 145K time series.
- Improved forecast accuracy by 14% RMSE over the best individual model, validated using RMSE and SMAPE—demonstrating the effectiveness of hybrid statistical–deep learning approaches.

SKILLS & TOOLS

Programming: Golang, Python, C++;
Databases: PostgreSQL, MySQL, Redis, Memcached, MinIO;
Backend: Gin, gRPC, Docker, Messaging Queues (NATS, RabbitMQ, ZeroMQ);
Observability: Sentry, Kibana, Jaeger;
Tools: Git, GitHub, Linux/Unix, VSCode, Vim, Jira, ClickUp

EDUCATION

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)