Joshua De Matas

Mid-level Golang Engineer

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Summary

I've built backend platforms, HTTP tunnels over SSH, and CLI tools across varied domains. My broad engineering perspective helps me design efficient, maintainable systems. I focus on performance, clarity, and building tools that empower developers.

Projects

BURNR - Tech Lead and Backend Developer

A social fitness platform built primarily in Go.

- Led backend design, service boundaries, and tech stack decisions.
- · Designed hybrid storage using PostgreSQL, Firestore, and Cloud Storage.
- Integrated Apple Health syncing and leaderboard ranking based on user goals.
- Upgraded caching and pub/sub with Dragonfly and Redpanda.
- Deployed backend on self-hosted VPS using Docker Stack/Swarm.

Garden Observer — Real-time 3D Robot Visualization

A full-stack web app to monitor live and simulated robot lawnmowers in 3D.

- Combined Unity Wasm for 3D rendering with Blazor for UI and control layer.
- Parsed SVG layouts to generate meshes for 3D environments.
- \bullet Used an internal event hub for real-time robot telemetry, updating position in 3D space.
- Created a Blazor-to-Unity component bridge (akin to custom React renderer).

Coconut - SSH HTTP Tunnel

An HTTP tunnel over SSH in Go (similar to Ngrok), using only standard libraries.

- Designed reverse proxy routing based on subdomains and SSH channels.
- Added multiplexed and dedicated tunnels to handle websockets and long-lived connections.
- $\bullet \ \mathsf{Integrated} \ \mathsf{Apple} \ \mathsf{Health} \ \mathsf{syncing} \ \mathsf{and} \ \mathsf{leaderboard} \ \mathsf{ranking} \ \mathsf{based} \ \mathsf{on} \ \mathsf{user} \ \mathsf{goals}.$
- Currently building a production-ready version with full monitoring and tests.

Cinnamon – Media Stashing Server and Extension

Created a self-hosted service to capture and store HLS video streams.

- Built a Go backend using FFmpeg to convert and stash videos.
- \bullet Integrated MinIO (S3 compatible) storage and built a lightweight web UI.
- Developed a custom browser protocol (cinnamon://) to launch downloads from the web.

Social Media Image Archiver — CLI Tool

A CLI tool to scrape liked tweets' images, saving them to MinIO storage.

- Designed browser automation as a state machine, inspired by Rob Pike
- Used SQLite for deduplication and checkpointing of downloads.

References

Tommy Gustavsson, Software Architect

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