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🏠 fyy10.github.io

BRIEF BIO

I am a full-time software engineer working at MiTAC Information Systems Corp., dedicated to internal service architecture design & development. I love CS, math, and physics, with interests and project experiences in Artificial Intelligence, Operating Systems, Compilers, and Networked Systems.

WORK EXPERIENCE

Software Engineer

Apr. 2024 – Present

Mitac Information Systems Corp

Newark, California

- Spearheaded multiple software projects from conception to development, showing full-cycle development ownership while utilizing agentic coding tools for troubleshooting, codebase exploration, and faster feature delivery.
- Engineered a core service in Go with the Gin framework to provide a unified database access interface, featuring automated management of multiple databases, connection pools, and thread-safe transactions.
- Architected a multi-tiered service infrastructure with a reverse proxy to manage internal & external API requests.
- Designed and developed a secure authentication service and API gateway in Go, implementing Role-Based Access Control (RBAC) for API routes using JWT.
- Developed robust RESTful API services in Python with FastAPI for CRUD operations on database entities and the generation of data reports.
- Successfully refactored and upgraded a legacy .NET client application to use Oracle.ManagedDataAccess, eliminating the dependency on Oracle Instant Client for end-users.
- Led the migration of internal codebases from TFS to GitLab, establishing a modern version control workflow and improving development efficiency.
- Established CI/CD pipelines to automate and streamline service deployments using Docker containers, orchestrated with Docker Compose for a declarative and version-controlled infrastructure.
- Re-engineered a Xamarin mobile application in Flutter for warehouse logistics management, successfully deployed it to over 100 handheld devices across multiple warehouses.
- Maintained and enhanced mission-critical internal systems, including the Shop Floor Control System (SFCs) and Logistic Information System (LIS), utilizing C# (.NET), ASP.NET, DevExpress, and Oracle PL/SQL.

TECHNICAL SKILLS

Languages: Python (6 yrs.), C/C++ (5 yrs.), Go (2 yrs.), PL/SQL (2 yrs.), Java (2 yrs.), Rust (1 yr.), C# (1 yr.)

Developer Tools: Visual Studio, VS Code, JetBrains IDEs, Vim, Git, Copilot, Claude Code, Codex, MCP, Agent Skills

Technologies/Frameworks: FastAPI, Gin, Docker Compose, Flutter, PyTorch, L^AT_EX, Linux, AWS, Kubernetes, Kafka

PROJECTS

Snek Compiler | *Rust, Cargo, NASM, Makefile* | <https://github.com/Fyy10/snek-compiler>

Apr. 2023 – Jun. 2023

- Developed an x86_64 compiler for a Lisp-like language called **snek** using Rust.
- Implemented a parser for the abstract syntax tree (AST) leveraging Rust's pattern matching capabilities.
- Successfully implemented core language features including numerical and logical operators, variable bindings, conditional and loop statements, functions adhering to System V ABI's calling convention, and tuple-based structured data.
- Implemented a garbage collector using the LISP 2 mark-compact algorithm to manage memory automatically.

Surf Store | *Go, gRPC, Protobuf, Raft, SQLite* | <https://github.com/Fyy10/SurfStore>

Jan. 2023 – Mar. 2023

- Engineered a distributed, decentralized file synchronization system from the ground up.
- Designed and implemented a key-value store for block-level data storage, with a local SQLite index for efficient client-side metadata lookups to decouple metadata and content storage across distributed servers.
- Utilized gRPC and Protocol Buffers to define efficient, strongly-typed client-server communication protocols.
- Implemented a consistent hash ring for deterministic data placement and retrieval, ensuring balanced load distribution.
- Guaranteed system reliability and fault tolerance by integrating the Raft consensus algorithm for the metadata service.

PUBLICATIONS

[1] **Yangye Fu**, Ming Zhang, Xing Xu, Zuo Cao, Chao Ma, Yanli Ji, Kai Zuo, Huimin Lu; Partial Feature Selection and Alignment for Multi-Source Domain Adaptation; Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2021, pp. 16654-16663 ([Paper Link](#))

EDUCATION

University of California, San Diego

MS in Computer Science, Cumulative GPA: 4.0/4.0

Sep. 2022 – Mar. 2024

La Jolla, California

University of Electronic Science and Technology of China

BEng in Computer Science and Technology, Cumulative GPA: 3.96/4.0

Sep. 2018 – Jun. 2022

Chengdu, China