Nicholas Russo

Software Engineer

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BACKGROUND

ABOUT

Software developer with 2.5 years of experience specializing in backend development and scalable API architecture using Python, Rust, and Go. Demonstrated expertise in optimizing system performance and reliability through efficient, maintainable code. Currently building AI/ML infrastructure with focus on vector databases and LLM engineering.

WORK EXPERIENCE

Software Engineer, Omnitier, Inc.

Jan, 2021 - May, 2023   2 years 4 months

- Developed regression testing system using Go and Python, significantly improving code stability
- Optimized Python script performance by ~90%, reducing runtime from 45 minutes to 5 minutes by minimizing system calls
- Enhanced React frontend with new features using gRPC API and resolved critical bugs

PROJECTS EXPERIENCE

OmenDB

- Present

PostgreSQL-compatible vector database implementing HNSW indexing and binary quantization. Drop-in pgvector replacement optimized for memory efficiency and query performance at scale

Zenith

- Present

Python web framework with chainable query APIs, zero-config setup, and async request handling. Built for developer experience and production performance

sy
- Present

File synchronization tool with delta sync, parallel transfers, and streaming algorithms. Modern alternative to rsync built in Rust
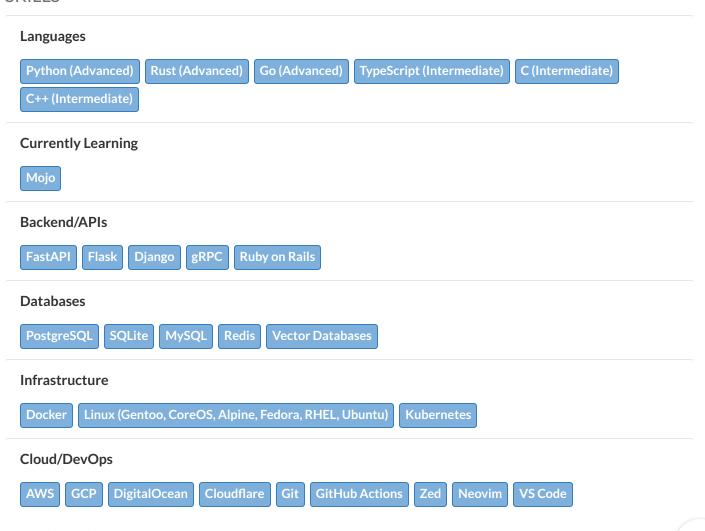
Kombrucha
- Present

Package manager with parallel downloads, dependency resolution, and improved caching. Homebrew alternative focused on speed and reliability

Pacabot
- Present

Trading bot with market analysis, automated strategy execution, and risk management. Real-time data processing for algorithmic trading

SKILLS

Languages

Python (Advanced)   Rust (Advanced)   Go (Advanced)   TypeScript (Intermediate)   C (Intermediate)
C++ (Intermediate)

Currently Learning

Mojo

Backend/APIs

FastAPI   Flask   Django   gRPC   Ruby on Rails

Databases

PostgreSQL   SQLite   MySQL   Redis   Vector Databases

Infrastructure

Docker   Linux (Gentoo, CoreOS, Alpine, Fedora, RHEL, Ubuntu)   Kubernetes

Cloud/DevOps

AWS   GCP   DigitalOcean   Cloudflare   Git   GitHub Actions   Zed   Neovim   VS Code

EDUCATION

Computer Science, , 42 Silicon Valley

Jan, 2018 - Jan, 2020

Computer Science, , Las Positas College

Jan, 2014 - Jan, 2018

Computer Science Club President 2016 - 2017

Web Development, , Dev Bootcamp

Jan, 2016 - Jan, 2017

AWARDS

2nd Place & Ingenico Winner , Money 20/20 Las Vegas 2016

Awarded on: Jan 01, 2016

Team Kairos - Developed cross-terminal payment application with REST API for business partnerships. Built with Go and PostgreSQL, deployed on CoreOS