

DHIRAJ JHA

github.com/jhadhiraj147

[linkedin.com/in/jhadhiraj147](https://www.linkedin.com/in/jhadhiraj147)

📍 1000 17th Avenue North, Nashville, TN 37208
✉ jhadhiraj147@gmail.com 📞 (615)-668-2773

EDUCATION

Fisk University, Nashville, TN

Computer Science (B.S.) & Mathematics (B.A.)

Aug 2024 – May 2028

Presidential Scholar

Courses: Software Designs, Program Design & Data Structures, Algorithms, OOP, Computer Networks, Automata Theory, Computer Architecture, OS, Linear Algebra, Discrete Structures, Algebraic structures, Statistics, Real Analysis

INDUSTRY EXPERIENCES

Google

Software Developer Intern

May 2025 – Aug 2025

Sunnyvale, California

Project: Automated Google's PRICE (Production Risks in Core Eng.) program that periodically assesses its systems' health.

- Reduced PRICE assessment time by ~99% (3 days → 15 mins) by building the automated tool *PRICELess*.
- Eliminated 100% of manual engineering effort in emailing, reporting, and bug tracking by orchestrating Gmail, Bug, and Google Docs APIs into a single automated workflow.
- Built a RAG pipeline grounding LLM outputs in SRE principles, reducing hallucination and producing standardized assessment reports with consistent structure and citations.
- Designed an auto-authentication service for resolving cross-service permission failures across other microservices.

Vanderbilt University Medical Center

Software Developer Intern

Apr 2026 – Present

Nashville, Tennessee

- Developed a hybrid rule-engine + LLM/RAG pipeline (FastAPI, pgvector) for IBC biosafety forms, autonomously resolving high-confidence fields and grounding uncertain cases via semantic retrieval, cutting extraction time by ~95%.
- Engineered a dual-track confidence layer that auto-accepts fields only when both tracks agree above a tunable threshold, routing discrepancies to a human review queue, achieving ~100% accuracy in digitalizing 5 years of records.

offtofly

Founder & Lead Engineer

Aug 2025 – Present

Nashville, Tennessee

- Leading a 5-person team building offtofly, a deterministic trip itinerary generator and maintainer; architected the distributed system (Go/Python/C++) with REST/gRPC inter-service protocols and async worker pools for 24/7 monitoring of live travel APIs.
- Designed the Experience Catalog using a graph database (Neo4j/Go) modeling experiences as nodes with typed edges (location, timing, budget, pace), enabling the constraint solver to compose valid personalized itineraries without LLM.

PROJECTS

Flash Transfer (Distributed File System)

March 2026

- Engineered a distributed chunk-based filesystem in Go with WAL persistence, metadata leasing, and concurrent replication pipelines.
- Implemented quorum recovery and heartbeat-driven failure detection to preserve consistency during node failures and parallel writes.

Bluetooth AudioSync

Dec 2025

- Built a C++ multi-speaker audio sync tool for A2DP devices using concurrent playback pipelines and timestamped buffering.
- Reduced inter-speaker playback drift through clock-offset estimation and latency-compensated real time synchronization.

eShopping Interface for IoTs (smart fridges)

Jan 2026

- Built 4 Go microservices (ordering, inventory, pricing, analytics) over gRPC for low-latency inter-service communication.
- Coded real-time warehouse-robot dispatch using ZeroMQ pub-sub; Built a REST API Gateway for auth, order history, and payment.

TECHNICAL SKILLS

Core Languages: Go, C/ C++, Java, Python

Systems: REST, RPC, GraphQL, WS, Kafka, Flink, RabbitMQ, ZeroMQ, Design Patterns, TCP/ IP/ UDP

Data & Storage: Neo4j, PostgreSQL, MongoDB, DynamoDB, Redis, Prisma

Cloud & Infrastructure: Linux, Docker, K8s, Terraform, AWS, CI/CD, Git, Nginx

LEADERSHIP & AWARDS

- VP, Fisk Math Club
- Finalist, Nepal Olympiad in Informatics 2022
- Semifinalist, Nepal Mathematical Olympiad 2022