

# DHIRAJ JHA

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## EDUCATION

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**Fisk University, Nashville, TN**

**Aug 2024 – May 2028**

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

*Presidential Scholar – GPA: 3.7/4.0*

**Courses:** Software Design, Algorithms, Linux (OS), Computer Networks, Computer Architecture, Digital Systems, Automata Theory

## INDUSTRY EXPERIENCE

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**Google**

**May 2025 – Aug 2025**

*Software Developer Intern (SRE Team)*

*Sunnyvale, California*

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

- Engineered and end-to-end tested the automation tool *PRICELess*, accelerating PRICE assessment time from 3 days to 15 minutes.
- Orchestrated Google Workspace APIs to automate 100% of manual engineering effort in emailing, reporting, and bug tracking.
- Constructed a RAG pipeline to ground LLM outputs in SRE principles, standardizing assessments and limiting hallucinations.
- Embedded LOAS-based auto-authentication into *PRICELess*, enabling seamless inter-service communication across microservices.

**Vanderbilt University**

**Apr 2026 – Present**

*Software Developer Intern*

*Nashville, Tennessee*

Project: Processed 5 years of highly sensitive data from EHS's legacy system to a modern third-party platform (Onsite Systems).

- Developed an ETL pipeline to digitize heterogeneous documents (PDFs, DOCX, scans), reducing manual data entry by 90%.
- Enhanced extraction accuracy using a multi-engine parser (PyMuPDF, pdfplumber) with automated divergence flagging.
- Integrated a locally hosted LLM verification layer (Llama 3, Ollama) to securely resolve unstructured data anomalies.
- Implemented a SQL query interface normalizing fragmented legacy data into JSON/YAML payloads for strict vendor API integrations.

**Offtofly**

**Aug 2025 – Present**

*Founder & Lead Engineer*

*Nashville, Tennessee*

- Lead a team to engineer a deterministic trip itinerary generation engine, integrating an ML layer strictly for user personalization.
- Architected a distributed microservices system (gRPC/GraphQL/REST); developed an MVP for stakeholder demonstrations.
- Prototyped a custom graph-based database to catalog travel experiences as nodes with multi-typed edges (location, timing, pace).

## PROJECTS

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**FlashFS**

**Mar 2026 – Present**

- Built a FUSE-based distributed filesystem sharding files into content-addressed chunks across Linux nodes; cloud stores metadata only.
- Enabled P2P transfers against NAT using STUN/ICE, and secured gRPCs with mTLS throughout links across nodes & services.
- Added fault-tolerance mechanisms including quorum replication, WAL-backed recovery, and self-healing repair during node failures.

**AutoGrocery**

**Jan 2026 – Mar 2026**

- Structured 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.

**AudioSync**

**Dec 2025 – Jan 2026**

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

## TECHNICAL SKILLS

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**Backend:** Go, C/C++, Python, PostgreSQL, MongoDB, Redis

**Systems:** Linux, Distributed Systems, Concurrency, gRPC/RPC, Message Queues

**Networking & Security:** TCP/IP, HTTP/S, WebSockets, STUN/ICE, mTLS, PKI

**Infrastructure:** Docker, Kubernetes, Terraform, AWS, Git

## LEADERSHIP & AWARDS

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• VP, Fisk Math Club

• Finalist, Nepal Olympiad in Informatics 2022

• Semifinalist, Nepal Mathematical Olympiad 2022