

HARIOM KHONDE

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LinkedIn

GitHub

EDUCATION

PES University RR Campus

Bachelor of Technology in Computer Science and Engineering

Aug 2023 - Jul 2027

Bengaluru, India

- Awarded the CNR Rao Merit Scholarship (Top 20% of cohort) for last 3 consecutive semesters.

EXPERIENCE

CHEAL Research Center

Research Intern

Jun 2025 - Jul 2025

PES University

- Improved medication-recognition **accuracy to 95%** by integrating **YOLOv8** object detection and OCR (PaddleOCR) into a real-time, body-mounted monitoring system design for geriatric diabetic patients
- Strengthened pipeline robustness by implementing custom dataset training and fallback recognition, cutting failed-detection cases observed during testing

Teaching Assistant, Design and Analysis of Algorithms

PES University

Jan 2026 - May 2026

Bengaluru, India

- Supported **DSA/algorithms** coursework by designing coding challenges and resolving grading-platform issues

TECHNICAL SKILLS

Languages: C++, Java, C, JavaScript, Python

Technologies/Frameworks: Linux, Git, Docker, Kubernetes, Node.js, Express.js, FastAPI, PostgreSQL, MySQL, MongoDB, Redis, Apache Kafka, MinIO, WebSockets, Hadoop, AWS (basics), HTML, CSS

PROJECTS

OmniStream | Github | Golang, PostgreSQL, Kafka, MinIO, LiveKit, Docker, Llama 3

2026

- Architected a **distributed real-time collaboration platform** using Go and React, enabling low-latency video conferencing, asynchronous file sharing, and secure **JWT-based** room authentication.
- Designed a scalable storage architecture using **PostgreSQL**, **MinIO**, and **LiveKit webhooks** to manage room lifecycles, media metadata, and secure file delivery.
- Integrated **Whisper** and **Llama 3** to automatically transcribe meeting audio and generate AI-powered meeting summaries and actionable insights in real time.
- Containerized the multi-service architecture using **Docker Compose**, integrating **PostgreSQL**, **MinIO**, and **Apache Kafka** to enable reliable, persistent, and reproducible deployments.

YAK - Yet Another Kafka | Github | Python, FastAPI, Redis, Distributed Systems

2025

- Engineered a fault-tolerant, distributed **microservice** message broker with **zero data loss guarantee** using Redis-based atomic leader election and synchronous replication across broker nodes
- Implemented High Water Mark (HWM) consensus protocol ensuring messages committed only after follower acknowledgment, preventing inconsistent reads during leader failures
- Built producer-consumer clients with automatic leader discovery and seamless failover, demonstrating full system recovery after catastrophic leader crashes at scale

SmartWallet - Wallet Management System | Github | Node.js, Express, MySQL

2025

- Architected a full-stack digital wallet with **atomic P2P and merchant payments** via MySQL stored procedures, preventing partial-update failures and duplicate charges through transaction hash idempotency
- Designed **5+ triggers and stored procedures** with wallet audit trail, bcrypt PIN hashing, JWT auth, and role-based access for users and merchants
- Built automated reward expiry via MySQL scheduled events and a monthly analytics engine with CSV export, chart visualizations, and hourly refund retry logic

LEADERSHIP & COMPETITIONS

- Algomania 3.0** — Led organization of a college-wide competitive coding competition backed by industry sponsors as part of a college club, owning problem design, and end-to-end execution
- Hackathons:** CODE RED'25 (AI-driven waste management platform), Epoch 2.0 DataThon (Tumor-Detect AI solution), Terrathon 4.0 — Top 10/160+ teams (EcoScan sustainable consumption app)