

Hari Om Bhardwaj

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EDUCATION

• Siksha O Anusandhan University, ITER

Bhubaneshwar, Odisha, India

Oct 2021 - June 2025

Bachelor of Engineering in Computer Science; GPA: 3.1, CGPA(8.1/10.0)

EXPERIENCE

• BugOwl AI, Backend Developer

Mumbai, Maharashtra (Remote)

Sep 2025 - Present

FastAPI, React Native, GCP, Supabase (Auth, DB), Vertex AI, Firebase, FFmpeg

- **Audio Pipeline:** Optimized text-to-speech pipeline by migrating from short-form to long-form audio generation using SSML, reducing API calls from 30–40 to 2–3 per script and lowering CPU utilization during audio stitching with FFmpeg.
- **Caching and Performance:** Introduced an in-memory LIFO caching mechanism for signed URL retrieval from GCP bucket, improving response times by **10x (from 10s to 2–3s)** for script assets after initial load.
- **AI Integration:** Integrated Vertex AI and Gemini to auto-generate AI-based poster images and enhance voice synthesis with enriched dialogue and scene context for lifelike voice generation.
- **Monetization System:** Implemented Dodo payment gateway and developed a subscription-based model, enabling seamless in-app purchases and recurring revenue management.

• RestoTag, Backend Developer (Freelance)

Ahmedabad, Gujrat (Remote)

June 2025 - September 2025

FastAPI, Django, AWS (EKS, ECS), Docker, PostgreSQL, CI/CD, REST APIs

- **System Migration & Architecture:** Re-architected the backend by migrating from Django(MVP) to FastAPI, building a scalable restaurant management platform featuring QR-based table booking, live menu updates, and realtime order tracking.
- **Access Control & Deployment Optimization:** Implemented a multi-level role-based access system for owners, managers, chefs, and staff to streamline workflows and order processing. Automated containerized deployments with Docker and CI/CD pipelines on AWS (EKS/ECS), ensuring reliable, low-downtime production releases.
- **Performance & Client Collaboration:** Resolved critical real-time synchronization issues using Redis PUB/SUB, TCP, websockets to maintain consistent communication between staff and kitchen teams. Collaborated with early restaurant clients to onboard systems, troubleshoot backend workflows, and optimize initial production performance.

• Detour Berlin, Backend Developer (Freelance)

Berlin, Germany (Remote)

Jan 2025 - Mar 2025

FastAPI, Redis, Docker, AWS, PostgreSQL, CI/CD, REST APIs

- **Backend Architecture & DevOps:** Developed a modular FastAPI backend for a luxury e-commerce platform with secure token-based authentication, role-based access control, and well-structured APIs for scalability. Automated CI/CD pipelines with Dockerized AWS deployments to ensure reliable releases and minimal downtime.
- **Performance Optimization:** Integrated Redis caching and asynchronous job queues to handle flash sales and heavy user loads, reducing API latency and improving scalability. Implemented object storage for product thumbnails and server-side image preloading, significantly enhancing response times and user experience during peak traffic.
- **Analytics & Monitoring:** Built a real-time analytics pipeline that tagged products and tracked their cart additions, tag co-occurrence patterns, and purchase frequency. Processed this data to train a Random Forest model that predicted high-conversion tags, enabling the business team to identify and procure products with the greatest sales potential.

PROJECTS

• ROOM , Messaging Backend

GitHub

Solo Project

FastAPI, PostgreSQL, Docker, Redis, SQLAlchemy, Protocol Buffers

- **Description:** Built a containerized FastAPI-based real-time messaging backend supporting secure room-based communication via WebSockets and Redis PUB/SUB. Implemented JWT authentication with Auth0, end-to-end encryption using Signal Protocol (Diffie–Hellman, ECC), and Protocol Buffers for efficient data serialization. Designed an asynchronous architecture enabling high concurrency, low latency, and scalable performance under heavy loads.

• Draftle , AI Email Reply Agent

Github

Solo Project

Vertex AI, Next.js, Express, Redis, GCP Cloud Run, Docker, Prisma + MongoDB

- **Description:** Developed an AI-powered full-stack email assistant that generates personalized Gmail replies by learning each user's tone, phrasing, and writing style. Designed a persona synthesis pipeline using questionnaire data and real email threads, creating structured JSON profiles refined via Vertex AI Gemini. Integrated Gmail OAuth for thread syncing, caching, and contextual drafting while deploying a scalable backend on GCP Cloud Run with Redis and Prisma ORM.

PROGRAMMING SKILLS

Languages: JavaScript , Python

Frameworks: FastAPI, Flask, NextJS ,Express

Database: PostgreSQL, MySQL, Redis

Libraries: PyTorch, Pandas, Sci-Kit, SQLAlchemy, Keras, LangChain

Tools: Git, Vim, GitHub Workflow, Docker, AWS, GCP