Hitarth Bharad

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Software Engineer | Cloud & Full-Stack Development

Software Engineer with 3+ years of experience in development, distributed systems, and cloud-based solutions. Strong expertise in **Java (Spring Boot), Python (Django, DRF), API development, and Machine Learning.** Passionate about **building high-scale smart services**, ensuring reliability, and optimizing system performance for business-critical applications.

Education

University of Arizona – Tucson, AZ, USA GPA: 3.9/4.0
M.S. in Information Science & Machine Learning Aug 2023 – May 2025
Courses: Neural Networks, Applied Natural Language Processing, Bayesian Modelling and Inference, Data Mining, Introduction to Machine Learning, Stats Natural Language Processing

Dhirubhai Ambani Institute of Information and Communication Technology – Gandhinagar, India
B.Tech. in Information and Communication Technology Aug 2017 – May 2021
Courses: Data Structures and Algorithms, Topics in Deep Learning, Introduction to Graph Theory, Nanoelectronics, Software Engineering, Operating Systems.

Skills

- Programming Languages: C++, Python, Java, JavaScript, TypeScript
- Backend Development: Python (Django, DRF), Java (Springboot), Node.js (Express.js, Next.js)
- Frontend Development: React.js, Next.js, Remix.js, Tailwind CSS, Material UI
- Databases: SQL, NoSQL, PostgreSQL, MySQL, MongoDB,
- Cloud & DevOps: Microsoft Azure, Jenkins, Kubernetes, Vercel, API Integration (REST / RESTful, SOAP), Azure Blob Storage, AWS S3
- Performance Optimization: Multi-threading, memory-efficient algorithms, debugging & profiling, WebSockets.
- Machine Learning & Data Processing: Tensorflow, PyTorch, Sci-Kit Learn, pandas, numpy, huggingface, transformer.
- Leadership & Communication: Agile Methodologies with Scrum & Kanban, Team collaboration, project coordination, cross-functional stakeholder management and Efficient Communication.
- Others: Object Oriented Programming, SOLID principles, LINUX Operating System.

Experience

FERO.AI – Dubai, UAE Sept 2021 – July 2024
Software Engineer
- Working in an early-stage startup, designed and implemented highly scalable and available SaaS infrastructure, including cloud-based storage and API layers for Authentication, Payment Gateway and Financial Services, Channel Partnership, and Presales Modules, supporting over **50 enterprise clients** across **15+ countries**.
- **Led the system architecture and prototyping** (POC) of new projects to improve product development process and deliverables, ensuring faster go-to-market strategies and better scalability.
- Led the development of iPaaS – CrossDock product (Integration Platform as a Service), integrating 30+ third party systems, reducing the data transfer time to achieve **20% increase in operational efficiency**. Platform contributed to the reducing the development time to **nearly 60%.**
- Designed and developed the high scale SaaS solution for Logistics First mile, Mid mile and Last mile delivery planning, trip management, contract management and revenue management for 50+ enterprise logistics client in MENA, Europe, Asia region.
- **Developed the Integrated LLMs** (ChatGPT - OpenAI, Mistral) based **RAG** pipeline for knowledge management, smart reporting to reduce customer query resolution time by 60% and improving accuracy of responses by **30%.**
- Engineered robust backend services utilizing **Java (Spring Boot), Python (Django, DRF),** and **JavaScript frameworks (Express.js, Next.js)** for cloud-based applications that enhanced scalability and reduced latency by 30 milliseconds per request.
- Implemented the Agile project management (**Scrum, Kanban**) to streamline the project and improve delivery cycle.
- Utilized the DevOps tools – (**Azure, Kubernetes, Jenkins**) to optimize cloud deployments and ensure high availibility.
- Participated in **on-call rotations**, contributing to reliability monitoring, debugging, and security processes.
- Collabroated cross-functionaly with product and infra teams to enhance **asynchronous job processing** and **dynamic configuration management.**

Verse Innovation – Bengaluru, India June 2021 – Aug 2021
Associate Software Engineer
- Developed **backend infrastructure** for a high-traffic video streaming platform serving **10M+ daily active users**, ensuring system stability and scalability.
- Optimized API architecture using Java (Spring Boot), reducing API response times by **40%** and increasing throughput by **25%.**
- Implemented customized data feed services, leveraging AI-driven content recommendation, increasing user engagement by 20% and retention rate by **15%**.

Projects

Connect IO – LLM Agent for Journals
- **Technologies: Next.JS, Django, OpenAI – LLM and Embedding, Pinecone, Neo4j, MongoDB, Clerk.**
- Implemented semantic search using Pinecone and Neo4j to enable efficient querying and association of journal entries with related topics, enhancing data discovery.
- Integrated advanced natural language processing (NLP) techniques to improve the LLM's understanding of journal content, providing more accurate and context-aware insights.

Efficient Hyperspectral Image Classification for Remote Sensing Application
- **Technologies:** Pytorch, Transformer, Datasets
- **Developed a novel vision transformer architecture for efficient Hyperspectral Image Classification problem for Remote Sensing applications, allowing higher accuracy and lower inference latency against state of the art models.**
- Submitted the research paper in Internation Conference for Computer Vision (ICCV) 2025.

Tucson Crime Pattern Analysis Dashboard
- **Technologies:** R (Shiny App, Quarto), PostgreSQL, Leaflet.js, Time-Series Analysis.
- Built an **interactive crime analytics dashboard** using **R (Shiny, Quarto)** for real-time data visualization.
- Fetched and processed crime data from the **Local Police Department API** to provide **trend analysis and geospatial mapping**.
- Integrated **Leaflet** for interactive maps, allowing users to filter crime hotspots by time, type, and location. Developed **time-series & Geospatial models** for crime pattern analysis, helping authorities allocate resources efficiently.

Research Publication

- Published a research paper on "Performative analysis on Ion sensitive field effect transistor by varying intrinsic parameter" - Research Paper Link