Anirudh S Shirahati

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SENIOR SOFTWARE ENGINEER | APPLIED AI & LLM SYSTEMS

Senior Software Engineer with 6+ years of experience building production-grade backend, data, and cloud-native systems. Currently focused on applied AI and LLM-powered application development, including Python-based services, API-driven workflows, and deployment on GCP and Azure. Strong background in delivering scalable systems aligned with business outcomes.

TECHNICAL SKILLS

Programming: Python, FastAPI, Java, JavaScript, Flask, Dash
AI/ML: LLMs, OpenAI API, Hugging Face, Prompt Engineering, RAG Architectures, ML Pipelines, Model Evaluation
Cloud: GCP (Cloud Run, Dataflow, BigQuery), Azure, Docker, CI/CD (Azure DevOps, GitHub Actions)
Databases: SQL, MongoDB, BigQuery

WORK EXPERIENCE

Senior Software Engineer | Independent AI Engineering | Chicago, IL | June 2025 - Present
- Building production-grade AI-enabled backend services using Python, FastAPI, and cloud-native architectures.
- Developing LLM-based workflows including prompt orchestration, embeddings, and retrieval-augmented generation (RAG).
- Designing REST APIs for AI-powered services and integrating models via OpenAI-compatible interfaces.
- Implementing AI output evaluation focused on reliability, bias detection, and response quality.
- Containerizing and deploying AI services using Docker and managed cloud platforms.

Senior Software Engineer | RWE Clean Energy Services, LLC | Chicago, IL | June 2021 - June 2025
- Designed data pipelines and APIs to support downstream analytics and machine learning integrations.
- Led development of Python-based backend and data-driven systems for renewable energy financial and operational workflows.
- Reduced manual engineering effort by 70% by automating Solar PV financial modeling.
- Deployed and scaled cloud infrastructure on Azure, improving system uptime and performance.
- Implemented CI/CD pipelines with Azure DevOps, increasing deployment frequency and production reliability.
- Built APIs and internal tools using FastAPI, Dash, SQL, MongoDB, and containerized deployments.

Research Assistant, ML Systems | UNC at Charlotte | Charlotte, NC | August 2020 - May 2021
- Designed and implemented a platform for iterative training of containerized ML models using GCP.
- Trained and deployed custom ML models using BigQuery and Cloud Storage on Cloud AI Platform.
- Built a scalable SaaS to induce bias and run ML experiments, reducing manual experimentation to a 3-click workflow.

Software Engineer | Future Focus Infotech Pvt Ltd | Mumbai, India | November 2018 - April 2019
- Developed backend features for a loan origination system using Java and SQL.
- Improved loan processing performance by 25% through redesign of a critical processing module.

Java Developer | Magna Infotech | Mumbai, India | August 2017 - January 2018
- Built web-based audit applications using Spring framework.
- Automated regulatory compliance processes, reducing manual effort by 60%.

Junior Software Engineer | Triumph Systems & Solutions Pvt Ltd | Mumbai, India | February 2016 - June 2017
- Built payroll web applications using Java and Liferay.
- Enhanced salary computation logic, reducing processing time by 30%.

PROJECTS (Selected Engineering Work)

- **Housing Price Prediction Service -** Built and deployed an ML-backed prediction service using Python and Google Cloud Run with automated CI/CD.
- **Serverless ETL Data Pipeline -** Implemented a scalable data processing pipeline using Google Cloud Dataflow.
- **Bias Evaluation Analysis -** Analyzed structured datasets and computed fairness metrics to evaluate model bias and output quality.

EDUCATION

- **M.S. Computer Science (Data Science)** | University of North Carolina at Charlotte | **May 2021**
- **B.E. Computer Engineering** | University of Mumbai | **May 2015**