

# Harshit Singhai

SOFTWARE ENGINEER

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## Work Experience

### Deloitte USI

Gurugram, India

DATA ENGINEER - STRATEGY AND ANALYTICS - ARTIFICIAL INTELLIGENCE AND DATA ENGINEERING

Feb. 2022 - Ongoing

- Collaborated with global asset leader's internal audit team, architecting cloud analytics for proactive risk detection and improved compliance
- Developed a **RAG** app with AWS Bedrock and LLM, integrating data ingestion for vector store and similarity search for content retrieval
- Optimized FastAPI and PostgreSQL performance, reducing latency by **40%** and improving response times by **35%**, enhancing user satisfaction
- Eliminated inter-job dependency failures and mismanaged cron jobs by orchestrating cross-account data pipelines with AWS Step Functions
- Architected secure **PII infrastructure** with masking and segregated storage, enhancing compliance, saving **\$50k/year in potential fines**
- Saved **52 man-hours** per week by migrating auditor reporting to AWS, automating tasks, and eliminating the need for manual reporting scripts
- Streamlined analytics with **Redshift Spectrum**, enabling direct S3 queries, minimized ETL, and efficient transformations of historical data
- Enhanced data availability through robust pipeline design, achieving **99.8% uptime**, efficient ingestion from **7+** data streams & transactions
- Drove **40%** S3 cost reduction and enhanced scalability by shifting data pipelines to serverless AWS Glue with autoscaling, replacing EMR
- Built trust with Glue data quality: automated checks on trends, alerts for anomalies, ensuring reliable data for data governance and analytics

### Quantive

Indore, India

SOFTWARE ENGINEER - PLATFORM

Aug. 2021 - January 2022

- Built microservices pipelines for data transformation and aggregation, enabling real-time anomaly detection and OKR performance analysis
- Optimized microservices leading to **30% reduction** in memory usage & processing time through memory profiling, & enhanced code readability
- Augmented microservice built on Pandas, using efficient vectorized operations to deliver KPI insights **20% faster** than prior batch processes
- Increased data throughput by **40%** using **Celery-based** async processing, RabbitMQ as message broker, and **ClickHouse** for data storage
- Implemented multi-channel anomaly detection alerts via Slack and email notifications, reducing response time to critical issues by **10%**

### Deepsources

Bengaluru, India

SOFTWARE ENGINEER - MACHINE LEARNING

December 2020 - June 2021

- Built AI recommendation system to guide users towards the most impactful code issues, optimizing their workflow and enhancing code quality
- Created **50k+ personalized ML models**, to predict high-impact code issues based on user's historical data, saving developers' **30 hours/week**
- Leveraged Kubeflow orchestration and Katib for **hyperparameter tuning** on Google Cloud Platform, achieving **20%** faster ML pipeline training.
- Implemented adaptive ML model retraining for continuous code recommendations, adapting to new patterns, and ensuring model relevancy
- Prioritized code quality by deploying only model versions demonstrating superior precision and ROC AUC, driving continuous improvement

## Projects

- <https://fictionally-irrelevant.vercel.app> : **Authored 72+** in-depth technical blog posts, delving into diverse areas like **AI, Cloud, Data, and web3**
- **MLH Fellowship**: Amongst **144** out of 30,000 applicants; Contributed to **BentoML** Open-Source Python library to build Machine Learning APIs
- [fictionally-irrelevant.vercel.app/posts/side-projects-2023](https://fictionally-irrelevant.vercel.app/posts/side-projects-2023): Shipped and deployed **20+** user-facing side projects, reaching over **1k users** globally

## Accomplishments & Awards

2023 **Cohort Lead**, Deloitte AI Academy Explorer Program: Guided 80+ practitioners on Datacamp ML track

Deloitte USI

2022 **Applause Award**, recognized by Senior Leadership for delivering outstanding client outcomes

Deloitte USI

2019 **Mentor**, sophomore students for Python: Conducted and managed 30+ labs sessions and tutorials

Bennett University

2019 **National Finalist**, Smart India Hackathon: Improvised Kotak Mahindra Bank's virtual assistant Keya

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## Education

### Bennett University

Delhi NCR, India

BACHELOR OF TECHNOLOGY IN COMPUTER SCIENCE AND ENGINEERING (CSE) - 7.98 GPA

Aug. 2016 - Aug. 2020

- Main coursework: **Data Structures and Algorithm, Database, Artificial intelligence, Machine Learning, Cloud Computing, Big Data**

## Programming Skills

Server Side	Python, Go, Node.js, FastAPI, Django, REST API
Data Engineering	Spark, PySpark, Pandas, Airflow, AWS Glue, S3, EMR, Athena, Hive, Presto, SQL, Tableau
Machine Learning	Scikit-Learn, LLM models (OpenAI, Llama 3.1), ChromaDB, Sagemaker, AWS Bedrock, Keras, Kubeflow, MLOps
Database	SQL/NoSQL, PostgreSQL, MongoDB, AWS DynamoDB, Redis
Other	AWS, Docker, Kubernetes, Git, Problem Solving, Data Structures Algorithms