

SHIVIKA K BISEN

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PROFESSIONAL EXPERIENCE

Data Scientist – LLM, Viasat Aug 2023 – Present
San Jose, California

- Led the development and deployment of an **LLM product** from concept to production, achieving 96% execution accuracy and boosting query performance by 60% using advanced **RAG** for text-to-SQL.
- Optimized the LLM chain through **embeddings** for database schemas, **vector store** setup, and hybrid **retrieval** algorithms.
- Designed and fine-tuned the text-to-SQL conversion chain using Langchain, improving prompt efficiency and database interactions.
- Implemented CI/CD with GitHub Actions and agile methodologies, conducted A/B testing for new feature - LLM as judge, YOLO.

Data Scientist, PAXAFE Inc May 2021 – Aug 2023
San Jose, California

- Deployed **predictive models** at **J&J** at global scale, using Python, MySQL, Docker, AWS, and Flask with 95% accuracy.
- Architected **product analytics tool** to evaluate **metric** on large-scale data (10 TB+). Built **data pipeline** into AWS cloud and deployed real time dashboards using Superset, Tableau, data models in 4 regions- NA, Europe, SA and Asia.
- Automated retraining of ML models for batch inference for forecasting, collaborating with cross functional teams.

Software Engineer – LLM, iCatalysts Inc Jul 2020 – Apr 2021
San Francisco, California

- Created **LLM topic classifier** (GPT-3) for post in social network for California Energy Commission using sentiment analysis, **prompt engineering** and **fine-tuning**. Performed code reviews, identifying bugs, and debugging using Python, ETL, React and Git.

Data Scientist, NLP – Microsoft, University of Michigan – Ann Arbor May 2020 – Apr 2021
Ann Arbor, Michigan

- Developed **Gen AI recommendation system** to **production** for United Nations on unstructured reports, achieving a 0.87 Mean Average Precision and raised **ranking** by outperforming Google for UN-related queries.
- Fine-tuned BERT model for summarizing text using, data scraping, PDF text extraction and employed BM-25 and semantic retrieval.

NLP Engineer – Google.org, University of Michigan – Ann Arbor Jan 2020 – Nov 2020
Ann Arbor, Michigan

- Designed a **LLM classifier** by training logistic regression and, RoBERTa to predict **user behavior** on UpTogether social networking platform. Achieved an 82 F-1 score (used TensorFlow, Scikit-learn framework).
- Collaborated with NLP Researcher Prof. David Jurgen to develop advanced NLP features by data processing with GloVe embedding, LIWC, Stanford CoreNLP sentiment analysis. Solution resulted in adoption of platform in 19 US states.

EDUCATION

University of Michigan – Ann Arbor Ann Arbor, Michigan
Master of Science in Data Science, Computer Science & Engineering Jan 2019 – Dec 2020

VIT University Vellore, India
Bachelor of Technology Biomedical Engineering, Minor in Computer Science Jul 2009 – Aug 2013

TECHNICAL SKILLS

Technical Languages: Python, SQL, JavaScript, R, HTML5, CSS3

Tools and Frameworks: AWS (Iamdba, Bedrock, ECR, Sagemaker, Redshift, API Gateway etc), Docker, Snowflake, dbt, redis, GCP, Github/Bitbucket, Pandas, NumPy, SciPy, Scikit-learn, TensorFlow, Keras, Pytorch, Matplotlib, NetworkX, NLTK, genism, React, Flask, Django, Node.js, D3.js, Hadoop/Spark, Jira, Excel, Jupyter, MySQL, PostgreSQL, MLflow, Airflow

PUBLICATION & AWARDS

- Attended [Gen AI summit SF 2024](#) engaging with workshops, focused on AI, LLM and multimodal agents.
- Speaker at [ML-Ops Conference New York 2022](#) sharing insights on successfully deploying **end to end** models to production.
- Secured **top rank** in a **Kaggle** competition at UMich, focusing on ranking and retrieval.
- Featured on Medium for [LLM Architecture](#) | [Stanford coreNLP](#) | [GloVe embedding](#) .
- Published "An Improved Segmentation Technique for Breast Infiltration/Tumor Detection from Mammograms" in International Journal of Engineering and Technology, 2013, Vol. 5, Issue 3, pp. 2565-2574.
- Awarded UMich Scholarship for exceptional STEM achievement.