Ayanita Basu

Machine Learning Engineer

An experienced Python Developer with over 10 years of experience in the banking domain of one of the largest banks of North America, specializing in NLP, Backend web development and Predictive Modeling. Proficient in data acquisition, preprocessing, analysis and predictive modeling. Adept at leveraging automation tools and cloud infrastructure to deploy and monitor machine learning models. Passionate about security adherence and implementing guardrails for LLM model protection

Contact

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Skills

Python, Shell scripting, MongoDB, AWS(CLI,EC2, S3,RDS)

Numpy, pandas, scikit-learn, Tensorflow

Keras, Natural Language Processing(NLP)

Work History

2017-11 - Current

GEN AI Developer

Tata Consultancy Services

- Led the development of NLP-based products using Python and Kore AI framework for the banking system, enabling improved customer support efficiency by 30%.
- Worked on securing the LLM models by providing guardrails (PII , jailbreaks, hallucinations, Ethical constraints)
- Implemented data engineering techniques with NLP to acquire, preprocess and analyze data from different monitoring tools(Splunk, AppDynamics) and ingest them into NoSQL DB(MongoDB).
- Exposing cleansed data to UI using Flask API.Data Preprocessing, cleaning and Visualization using univariate, bivariate and multivariate analysis and different types of charts and plots, unigram, bigram and n-gram analysis. Worked on Syntactical analysis and POS tagging.
- Implemented One-click process for draining and undraining of traffics across Data-Centers, that won the Contextual Master of the global unit.
- Built an NLP-product based on TF-IDF, Syntactical search and Semantic Search using Doc2vec, Word2vec and BERT model to assess the severity of incidents based on the descriptions provided by the user.

Open AI, LLM,
Flask,
Matplotlib,
Seaborn,
Tableau

Splunk,
AppDynamics,
Jenkins, Git

Model
Deployment,
Model
Monitoring,
Model
Optimization

Languages

English,
Bengali, Hindi

- Worked on GEN AI LLM models (BEDROCK, Azure Open AI)

- Securing Azure Open AI models(**Content Moderation, Usage Monitoring, Access Control, Rate Limiting, Audit Trails, Model Constraints**)
- Various reports generated for Anomaly Detection of Microservice behaviors using Isolation Forest, DBSCAN and ARIMA models.
- Worked on various Machine Learning Models-Regression and Random Forest Models for Data Prediction.
- Developed and implemented performance improvement strategies and plans to promote continuous improvement.

2013-06 - 2017-10

Automation Specialist

Tata Consultancy Services

- Developed and implemented cost-effective strategies for monitoring existing applications using Python and Bash Scripting
- Automating monitoring and validation process during project releases, thus optimizing the cost.
- Ensured proper alerting for systems breaching thresholds.
- Implemented one-click validation for the entire system services, reducing man-hour to 50%
- Maintained, debugged and optimized automation programs.
- Representing data related to infrastructure services to end users , thus automating the service monitoring system.

Education

2008-08 - 2012-06

Bachelor of Technology: Information Technology

West Bengal University of Technology