DEBASHON CHAKRABORTY

PhD Candidate
debashonchakraborty@gmail.com || 409-271-1029 || Houston, Texas || Linked IN

PROFESSIONAL SUMMARY

Results-oriented **PhD Candidate** with 6 years of experience in developing and deploying advanced **AI, Machine Learning, and Deep Learning** solutions. Proficient in **PyTorch** and **TensorFlow** for building and training neural networks, including **CNNs, RNNs, transformers, and large-scale distributed** models. Skilled in designing end-to-end ML pipelines that integrate scalable data engineering frameworks such as **Apache Spark, Hadoop, Kafka, and Flink** for real-time analytics. Expertise in applying AI to diverse domains including anomaly detection, healthcare prediction, and intelligent decision systems. Strong background in cloud platforms (**AWS, GCP, Azure**) and databases (**Snowflake, Redshift, BigQuery**) to support data-driven AI workflows. Adept at **Python, SQL, and Scala**, with extensive experience automating ML workflows using Airflow and Prefect. Demonstrated success in delivering high-performance, reliable, and secure AI-powered systems in Agile research and industry environments.

EDUCATION

- **Master's in Management Information System || CGPA 4.00** || Lamar University, Beaumont Texas || 2023-2024
- **Bachelor's in Computer Science || CGPA 3.22**|| American International University Bangladesh, Dhaka || 2013-2017

Technical Skills

- Languages: Python, Java, SQL, Bash
- Big Data: Apache Spark, Hadoop, Kafka
- Cloud Platforms: AWS (S3, Redshift, EMR), Azure
- Tools: Docker, Git, Jenkins, Terraform
- Data: PySpark, Pandas, NumPy, Scikit-learn
- Databases: PostgreSQL, MongoDB, MySQL
- Other: Tableau, Power BI, Jira
- AI/ML: Pytorch, Tensorflow, Matplotlib, Neural Network

RESEARCH INTERESTS

- Spatial Data Mining
- Distributed Data Systems
- Intelligent Data Analytics
- Real-Time Streaming
- Machine Learning for Decision Support

SELECT PUBLICATIONS

- 1. "Anomaly-based Intrusion Detection System in Industrial IoT-Healthcare Environment Network" – Journal of Engineering Research and Reports, 2024
- 2. "Effectiveness of AI-based Machine Learning Algorithms in Predicting Global Market Movements" – Journal of Engineering Research and Reports, 2024
- 3. "Enhancing Industrial Control System Security: An Isolation Forest-based Anomaly Detection Model" – Journal of Engineering Research and Reports, 2024
- 4. "Enhanced Security and Efficiency in Attendance Management: A Novel RFID and Arduino Integrated System" – Journal of Engineering Research and Reports, 2024

Industry EXPERIENCE

Ford Motor Company – Data Engineer *Houston, TX | Jan 2024 – May 2025*

- Developed real-time pipelines using NiFi, Kafka, and AWS Kinesis for connected vehicle telemetry.
- Built scalable S3-based data lakes and analytics-ready pipelines using PySpark.
- Integrated AWS IoT Core for streaming diagnostics and anomaly detection.
- Orchestrated MLflow pipelines; automated CI/CD workflows with Jenkins and GitLab CI.
- Implemented GDPR-compliant data governance and encryption at scale.

Digicon Technologies Ltd. – Data Engineer *Dhaka, Bangladesh | Feb 2020 – Jul 2023*

- Developed Spark Streaming pipelines for telecom data ingestion and analytics.
- Managed BigQuery-based data warehouses and Airflow-based orchestration.
- Built customer-facing Power BI dashboards and integrated third-party APIs.
- Improved customer targeting through A/B testing and demographic enrichment.

Purple Care Ltd. – Data Analyst / Engineer *Dhaka, Bangladesh | Jul 2018 – Jan 2020*

- Engineered fraud detection systems using Kafka, Flink, and Databricks.
- Optimized financial ETL pipelines on Azure and Snowflake; secured data via tokenization.
- Conducted SQL tuning and improved compliance auditing with Apache Atlas.

PROJECT HIGHLIGHTS

- **Distributed Healthcare System**: Built AWS-based analytics pipeline for EHR and predictive modeling.
- **Live Stock Prediction Engine**: Implemented streaming analytics with Kafka + PySpark + ML models.

CERTIFICATIONS

- AWS Certified Solutions Architect – Associate (2024)
- Databricks Lakehouse Fundamentals (2023)