Aishik Bandyopadhyay

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Education

Indian Institute of Technology Madras — Chennai, India
Bachelor of Science in Data Science – CGPA: 7.98 — *Expected Dec 2027*

Techno International New Town — Kolkata, India
Bachelor of Technology in Computer Science – CGPA: 8.33 — *Expected July 2027*

Bishop Morrow School — Krishnanagar, Nadia, West Bengal, India
High School Diploma — *April 2023*

Professional Summary

Driven Data Science student with strong expertise in machine learning and data engineering. Proficient in building end-to-end data pipelines, dimensional modeling, and AI-powered applications. Combines technical skills with practical project experience in web development, agentic AI, and data warehouse implementation.

Technical Skills

Programming Languages: Python, SQL, JavaScript
Machine Learning & AI: TensorFlow, Neural Networks, Deep Learning, Agentic AI, Prompt Chaining
Data Engineering: MS SQL Server, Data Warehousing, ETL Pipelines, Star Schema, Medallion Architecture
Web Development: ReactJS, VueJS, Flask, FastAPI
Tools & Technologies: Tableau, Git, SQLite, Celery, BULK INSERT
Mathematical Foundations: Linear Algebra, Probability Theory, Multivariate Calculus

Projects

Data Warehouse with Star Schema & Medallion Architecture
MS SQL Server, ETL, Dimensional Modeling

- Implemented production-grade data warehouse using Medallion Architecture (Bronze-Silver-Gold layers) integrating CRM and ERP data sources with 18,500+ customer records
- Designed star schema with fact and dimension tables featuring SCD Type 2 support for historical tracking
- Built automated ETL pipeline using stored procedures with data cleansing, deduplication via window functions, and comprehensive error handling

Driver Distraction Detection using Deep Learning
PyTorch, YOLOv8, LSTM, Computer Vision

- Developed hybrid CNN-LSTM architecture combining YOLOv8 backbone with temporal attention mechanisms to classify 10 driver distraction behaviors from the State Farm Kaggle dataset (22K+ images)
- Implemented sequence-based learning with sliding window approach for temporal context modeling using LSTM networks
- Applied transfer learning with frozen YOLOv8 pretrained weights, weighted random sampling for class imbalance, and mixed precision training for memory optimization on 4GB GPU

Agentic AI Application
Python, Prompt Engineering, Self-Prompting

- Developed autonomous application capable of performing predefined tasks and dynamically generating Python code for novel requests
- Implemented prompt chaining and self-prompting techniques for automatic code detection, correction, and execution

Financial Assistant AI Agent
Web Research, Reasoning, NLP

- Built AI agent performing intelligent web searches and deep research to generate comprehensive financial reports
- Utilized advanced reasoning algorithms to synthesize information based on complex user queries

Human Action Recognition using 3D CNNs
TensorFlow, Computer Vision, Deep Learning

- Created 3D convolutional neural network model for recognizing and classifying human actions from video data