Orijeet Mukherjee

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EDUCATION

Northeastern University (Khoury College of Computer Sciences), Boston, MA — Sept 23 – Sept 2025
Candidate for a Master of Science in Computer Science
Related courses: Programming Design Paradigm, Algorithms, Database Management Systems.

University of Mumbai, Mumbai, India — July 19 – May 23
Bachelor of Engineering in Computer Engineering — CGPA: 9.03/10.0
Related courses: Big Data Analysis, Machine Learning, Data Warehousing and Mining, Natural Language Processing.

TECHNICAL KNOWLEDGE

Languages:	Python, Java, R, C, C++, Dart, Git
Technologies:	SQL, SAS, Firebase
ML frameworks:	Sci-kit learn, TensorFlow, NumPy, PyTorch

PROJECTS

Physical Object Identification in CMS experiment at CERN, GNN Based Regression Model — Aug 22 – June 23

- Led innovative research project at Tata Institute of Fundamental Research in collaboration with CERN, utilizing Graph Neural Networks to forecast electron energy in Geneva's HGCAL Particle Accelerator.
- Achieved a remarkable sigma value of 0.022 for precise energy predictions in particle physics while demonstrating exceptional efficiency, and fine-tuned performance in particle physics.

Click-through Rate (CTR) Prediction, Supervised Machine Learning Models — Aug 21 – July 22

- Enhanced CTR prediction accuracy, helping businesses experience remarkable growth, with improvements ranging from 10% to 30% or even more, by implementing embedded one-hot encoding techniques.
- Conducted an exhaustive analysis and secured an F-1 score of 95% while evaluating XGBoost, Random Forest, LightGBM, and Decision Trees, empowering businesses to streamline attributes expenditure effectively.

Storytelling with Data (Spotify), Data Analysis Interface — Sep 20 – June 21

- Analyzed the user base of Spotify in a particular country and represented that data on a map using Tableau.
- Derived logical conclusions that could help Spotify increase its user base using curated ads.

WORK EXPERIENCE

Tata Institute of Fundamental Research (TIFR), Mumbai, India — Aug 22 – June 23
Undergraduate Research Assistant

- Developed a regression method based on Graph Neural Networks (GNN) to capture intricate relationships within electron structures to predict electron energies.
- Collaborated with TI (Tata Institute) experts to validate model predictions and refine the research approach.

ViaTech Media, Mumbai, India — April 22 – Oct 22
Software Developer Intern

- Enhanced testing processes for restaurants, salons, and local business applications by revamping the testing framework with Java and Python. Boosted customer satisfaction and expanded the test suite.
- Designed several components using UI structure, fast state management, and Flutter's latest packages and modules.

PUBLICATIONS

- Submitted an electrifying and pioneering paper "Energy analysis of high granularity calorimeter using Graph Neural Network" to ICMLDE 23 under reference number 8476.
- Authored and published a research paper on "CTR Prediction of Advertisements using Decision Trees based Algorithms" in Isemantic 22, by IEEE Issue date: Oct 22.

AWARDS

- Honored with a completion certificate for a research project at the renowned Tata Research Institute (TIFR).
- Achieved the notable Pradarshini 23 award, securing the remarkable 3rd place in this esteemed competition.