RUDRAJIT DEY

M.Sc. in Big Data Analytics
Ramakrishna Mission Vivekananda Educational and Research Institute, Belur Math, West Bengal, India

@ rudrajit2906@gmail.com rudrajit-dey-5718181b9 Rudradev2906 9330925080

PROJECTS

- **Portfolio Optimization: Deep Learning for Portfolio Optimization**
  Tools: LSTM, TensorFlow, Yahoo Finance API, Markowitz Theory, RNN, Attention Models *Jan.'25 - Apr.'25, RKMVERI*
  Faculty: *Dr. Soumitra Samanta*
  - Implemented an LSTM model to optimize a portfolio of ETFs.
  - Used TensorFlow for the neural network and historical data from Yahoo Finance API.
  - Gained knowledge about Markowitz Mean-Variance Portfolio theory and deep-learning architectures like RNN, LSTM, Attention models.
- **Reading Project: Nelson Aalen Estimate under Random Censorship**
  Keywords: Survival Analysis, Stochastic Processes, Probability, Applied Statistics *Jan.'25 - May.'25, RKMVERI*
  Guide: *Prof. Sudipta Das*
  - Studied modelling censored data as a stochastic process.
  - Explored statistical properties of non-parametric estimators (Nelson-Aalen) for survival and hazard functions.
- **Machine Learning: Wine Quality Classification**
  Tools: Scikit-learn, Random Forest Regressor, SVM, Pandas, NumPy, Matplotlib *Sep.'24 - Nov.'24, RKMVERI*
  Faculty: *Br. Bhaswarachaitanya*
  - Implemented classification models: Logistic Regression, Decision Trees, Random Forest, SVM using scikit-learn.
  - Performed feature selection, data preprocessing, and model evaluation using pandas, NumPy, matplotlib.
- **B.Sc Thesis: Finite Simple Groups** *Jan.'24 - Apr.'24, IMA*
  Faculty: *Prof. Kishore Kumar Dash*
  - Authored a project report on permutation groups and the O'Nan–Scott Theorem.
  - Highlighted the classification of finite simple groups and its role in solving problems in finite permutation group theory.

COURSEWORK

- ***RKMVERI***
  - Deep Learning & NLP
  - Spectral Graph Algorithms
  - Matrix Computations
  - Time Series & Survival Analysis
  - Machine Learning
  - Statistics
  - Java & Hadoop
  - Econometrics & Finance
- ***IMA***
  - Programming in C
  - Linear Algebra
  - Calculus
  - Probability
  - Design & Analysis of Algorithms
  - Optimization & LPP
  - Numerical Analysis in Python

ACHIVEMENTS

- Research paper titled "LLM and Cloud Sustainability" accepted at the **3rd World Conference on Communication and Computing (IEEE WCONF)** and will be published in the proceedings.
- Qualified IIT-JAM 2024 (AIR: 740)
- NBHM-DAE Funded Undergraduate Scholarship for academic year 2022-23, 2023-24
- Qualified for mathematical olympiad like RMO, IYMC (2nd round).

EDUCATION

- **Ramakrishna Mission Vivekananda Educational and Research Institute**
  M.Sc in Big Data Analytics
  2024 - Present (Sem-I) SGPA: 7.00
- **IMA, Bhubaneswar**
  B.Sc.(H) in Mathematics & Computing
  2021 - 2024 CGPA: 8.23
- **Techno India Group Public School**
  CBSE (10+2)
  2020 Score: 91%
- **H. M. Education Centre**
  CBSE (10)
  2018 Score: 95%

TECHNICAL SKILLS

- **Programming Languages:** C, Python, Java, LaTeX, R
- **Frameworks:** Pytorch, Hadoop, Tensorflow, Keras, Scikit-learn, Numpy
- **Tools:** Git/Github, Google Cloud, Docker
- **Operating System:** Windows, Linux (Ubuntu)

ACTIVITY

- **TCG Crest**
  - Attended TCG Crest Crypto Summer School (CCSS) [*Jun'25*]
- **RKMVERI**
  – Organizing Team Member, Perceptron 2025
- **Conference of Odisha Mathematical Society**
  – Talk on "Erdős' proof of the Bertrand's Postulate and the Legendre Conjecture" [*Mar'22*]
  – Student Volunteer [*Mar'22*, *Mar'23*]
- **Twoples Reading Project** *[Spring '23]*
  – As part of Twoples program my aim was to learn about Lie Algebras and Lie Solvability
  – Use it to understand the theorem from a paper "On the Lie-Solvability of the Novikov Algebras" by Tulenbaev, Umirbaev and Zhelyabin

HOBBY

- Reading, Indian Classical Music, Football