

RADHESHYAM ROUTH

M.Sc. Big Data Analytics Student
RKMVERI, Belur Math, West Bengal, India

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PROJECTS

- Visual Question Answering (VQA) on Vizwiz Dataset**
ViT | MLP [\[View here\]](#) March - April 2025
 - Used CLIP ViT-B/32 to extract joint image-question features for a real-world, accessibility-focused VQA dataset.
 - Trained various MLP architectures with dropout to handle noisy data and long-tail answer distributions.
- Frame Based Supervised Video Summarization**
BiLSTM | OpenCV [\[View here\]](#) March - April 2025
 - Used GoogleNet Inception V3 to extract visual features from TVSum videos for frame-level importance prediction.
 - Trained BiLSTM models on full and downsampled frames to generate summaries using 0/1 Knapsack under a 15% length constraint.
- Movie Review Classification by Data Inferencing Using Ray**
Ray | DistilBert [\[View here\]](#) March - April 2025
 - Used Ray to parallelize inference on the IMDb dataset across a cluster using DistilBERT for sentiment classification.
 - Each Ray worker loads the model, processes a batch of texts, and returns predictions, enabling efficient distributed inference.
- A Comparative Study of Classification Algorithms on OrganCMNIST**
ML | Classification [\[View here\]](#) Sep - Nov 2024
 - Implemented binary and multiclass classification using Softmax Regression, SVM, Decision Trees, and Ensemble Methods.
 - Analyzed model performance using accuracy, precision, recall, F1-score, and ROC curves.
- Comprehensive Regression Analysis on Diabetes Dataset: Insights and Predictions**
ML | Regression [\[View here\]](#) Aug - Sep 2024
 - Explored Linear, Polynomial, Ridge, Lasso, Elastic Net, and SGD Regression.
 - Applied Gradient Descent methods, Normal Equation, and SVD for optimization.
- A Study of Basic Algorithm Design Techniques | B.Sc. Dissertation Work**
Supervised by **Dr. Soumitra Kayal** [\[Project Report here\]](#) Feb - April 2024
 - Studied core algorithmic techniques such as Brute Force, Divide-and-Conquer, Dynamic Programming, and Greedy methods.
 - Explored graph and optimization algorithms, including DFS, BFS, Prim's, Maximum-Flow, and Iterative Improvement.

COURSEWORK

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|----------------------------------|--|
| • Data Structures and Algorithms | • Time Series & Survival Analysis |
| • Java & Hadoop | • Graph Database & Distributed Computing |
| • Machine Learning | • Advanced Statistics |
| • Computer Vision | • Probability and Stochastic Process |
| • Deep Learning and NLP | • Statistics-I |
| • Joy of Computing Using Python | • Universal Human Values |
| • Linear Algebra | |

ACADEMIC ACHIEVEMENTS

- Top 2 % Scorer in NPTEL Joy of Computing Using Python Course (Aug - Nov, 2024).
- INSPIRE Scholar - Selected under Scholarship for Higher Education (SHE) Programme (2021 - Present)
- Ray & Martin Scholarship - Awarded for 2019 WBBSE result
- NMMSE Scholarship - Awarded for qualifying the NMMS Exam (2017- 2021)

EXPERIENCE

Summer Intern

Dept. of IT, Indian Institute of Engineering Science and Technology

May 2025 - July 2025 Shibpur, India

Few-shot latent space clustering for class-specific image generation. | Advisor- **Dr. Ruchira Naskar**

EDUCATION

- Ramakrishna Mission Vivekananda Educational and Research Institute, Howrah**
M.Sc. in Big Data Analytics
2024 - Present (Sem-1)CCPA: 8.43
- Ramakrishna Mission Vidyamandira, Howrah**
B.Sc. in Mathematics
2021 - 2024 CGPA: 8.93
- Marhtala Satyeswar Institution**
Higher Secondary (10+2) | PCMB
2019 - 2021 Score: 95.8%
- Panchgeria High School**
Secondary (10)
2013 - 2019 Score: 94%

TECHNICAL SKILLS

- Programming Languages:** Python, C, R, SQL, \LaTeX
- Frameworks:** Pytorch, OpenCV, Scikit-learn, Seaborn, PySpark, Neo4j, Ray, Hadoop, NumPy, Pandas, Matplotlib
- Tools:** Git/Github, Oracle Database, MySQL Database, MS Office
- Operating System:** Windows, Linux (Ubuntu)

ACTIVITY

- Placement Coordinator, RKMVERI**
– Manage Placement Cell for the Batch of 2024-'26
- Fest Organizer**
– Auction Team Member for **Perceptron 2025**, Computer Science Tech fest of RKMVERI
- Volunteer**
– Guided first-year hostel admissions, RKMV (2023)
– Organized Blood Donation Camp, RKMV (2022)
– Served as NSS Volunteer, RKMV (2021-'22)

HOBBY

- Reading Books, Bicycling, Playing Table Tennis.