

# KANAN PANDIT

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

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## PROJECTS

- **Retrieval-Augmented Generation (RAG) Based Multi-Document Question Answering System**  
LLM | NLP | Information Retrieval | Python | Transformers | Semantic Search  
[\[View Code\]](#) Aug 2025 - Ongoing
  - Initiated development of an **evidence-grounded QA system** combining semantic retrieval and **LLM-based generative reasoning** over large unstructured corpora ( **10 GB**, including PDFs, plain text, CSV, and JSON files).
  - In the **initial phase**, focusing on dataset exploration (CORD-19, HotpotQA, EU Legislation) and retrieval pipeline design using **semantic search**.
  - Aiming to enhance retrieval and generation quality while **minimizing hallucinations** to deliver **accurate, factual, and traceable answers**.
- **Wildfire Confidence Prediction using H2O Distributed Random Forest**  
Distributed Machine Learning | Python | H2O.ai | pandas | scipy | data analysis  
[\[View Code\]](#) Jan 2025 - May 2025
  - Deployed a 2-machine H2O cluster to train a Distributed Random Forest model for multiclass wildfire confidence prediction from satellite data.
  - Performed data cleaning, feature engineering, and statistical analysis to improve model interpretability and performance.
  - Achieved strong model performance across multiple key evaluation metrics.
- **Artistic Image Transformation in Ghibli Aesthetic**  
Deep Learning| Python | PyTorch | CycleGAN | GAN | Image Generation|Streamlit  
[\[View Code\]](#) Jan 2025 - May 2025
  - Developed a custom CycleGAN for unpaired image-to-image translation, transforming real-world photos into Studio Ghibli-style illustrations.
  - Improved training stability with identity and cycle consistency losses, and deployed on Streamlit for real-time interactive use.
- **Smart Control Hub:Multi-Functional Virtual Controller using Hand Gestures**  
OpenCV| Mediapipe | Python | PyAutoGUI | PyCAW [\[View Code\]](#) Jan 2025 - May 2025
  - Built a webcam-based gesture controller for volume, brightness, mouse, and slide control using Mediapipe, PyAutoGUI, and PyCAW with smooth real-time performance.
- **A Comparative Study of Classification Algorithms on the EMNIST dataset**  
Machine Learning | Python | Scikit-learn | Classification | Data Preprocessing  
[\[View Code\]](#) Sep 2024 - Nov 2024
  - Compared traditional ML models on the EMNIST dataset for multi-class character recognition (62 classes).
  - Built a two-layer classifier to distinguish digits, uppercase, and lowercase letters, identifying class imbalance and scalability as key improvement areas.

## COURSEWORK

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

## ACHIEVEMENTS

- Scored 86% in NPTEL course “The Joy of Computing using Python”, offered by IIT Ropar

## EDUCATION

- Ramakrishna Mission Vivekananda Educational and Research Institute, Howrah  
**M.Sc in Big Data Analytics**  
📅 2024 – Present (Till Sem-1) CGPA: 7.26
- West Bengal University of Teachers' Training, Education Planning and Administration,Kolkata  
**B.Ed With Pedagogy of Mathematics**  
📅 2020 – 2022 CGPA: 9.75
- Vidyasagar University,Medinipur  
**B.Sc in Mathematics**  
📅 2017 – 2020 CGPA: 6.85
- Golar Sushila Vidyapith High School,Golar  
**Higher Secondary (10+2) |**  
📅 2015 – 2017 Score: 78.20%
- Golar Sushila Vidyapith High School,Golar  
**Secondary (10) |**  
📅 2009 – 2015 Score: 68.42%

## TECHNICAL SKILLS

- **Programming Languages:** Python,R,LaTeX
- **Libraries & Frameworks:** Pytorch,OpenCV,scikit-learn,Seaborn,PySpark,Neo4j,H2O,Ray,NumPy,Pandas, Matplotlib
- **Tools,Platforms & Database:**Git,GitHub, Jupyter Notebook, Google Colab, VS Code,Streamlit,MySQL
- **Operating System :** Windows,Linux(Ubuntu)

## ACTIVITY

- **Placement Volunteer, RKMVERI**
  - Manage Placement Cell for the Batch of 2024-26
- **Fest Organiser**
  - Team Member – Coding Event Organizing Committee **Perceptron 2025**
  - Team Member – Hackathon Event Organizing Committee **Perceptron 2025**

## HOBBY

- Playing Cricket,Watching Movies,Traveling