KANAN PANDIT

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

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PROJECTS

- **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 virtual controller with gesture-driven modules for **volume/brightness, mouse control, and slide navigation**.
  - Used **Mediapipe** for real-time 3D hand landmark tracking; integrated system actions via **PyAutoGUI** and **PyCAW**.
  - Achieved **smooth (approx. 30 FPS)** performance with intuitive gestures and visual feedback under varying conditions.
- **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 an **H2O cluster on 2 machines** to train a multiclass wildfire confidence model using Distributed Random Forest.
  - Performed data cleaning, feature engineering, and statistical analysis to enhance model interpretability and performance.
  - Achieved strong model performance with key evaluation metrics: **RMSE = 0.1721**, **MSE = 0.02964**, **Mean Per Class Error = 0.070**, and **LogLoss = 0.0961**.
- **Artistic Image Transformation in Ghibli Aesthetic**
  Deep Learning| Python | PyTorch | CycleGAN | GAN | Image Generation|Streamlit
  [View Code] *Jan 2025 - May 2025*
  - Built a custom CycleGAN model from scratch for unpaired image-to-image translation, converting real-world photos into Studio Ghibli-style illustrations.
  - Optimized GAN stability via identity & cycle consistency losses.
  - Trained on 50 epochs with PyTorch, leveraging GPU acceleration and custom dataset pipelines.
  - Achieved visually compelling Ghibli-style transformations with strong texture and color consistency across diverse scenes.
  - Deployed the model on Streamlit for interactive real-time image transformation.
- **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 separate digits, uppercase, and lowercase letters.
  - Achieved 73% test accuracy; identified class imbalance and model scalability as key areas for enhancement.

COURSEWORK

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

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, C, R, Java ,SQL, 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