SAGNIK BISWAS

Data Science Enthusiast
M.Sc. in Big Data Analytics, RKMVERI, Belur, Howrah, India

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PROFESSIONAL SUMMARY

M.Sc. Big Data Analytics student at RKMVERI with experience in machine learning and distributed computing. Built scalable deep learning models using PyTorch and Ray framework for image and speech recognition applications. Experience in statistical modeling and developing data-driven solutions for analytical problems.

PROJECTS

- **Automated Scientific Discovery with Agentic AI:** (Ongoing)
  Keywords: Agentic AI, Scientific Discovery, Multi-Agent Systems, Research Automation

  Developing an AI agent system for automated scientific research and discovery, implementing multi-agent workflows to accelerate hypothesis generation, experiment design, and knowledge synthesis across scientific domains

- **Distributed CNN with Ray & PyTorch:** Scalable Deep Learning Implementation
  Tools: Ray Framework, PyTorch

  Architected distributed convolutional neural network across multiple nodes using Ray and PyTorch, achieving training efficiency and demonstrating scalable deep learning capabilities

- **Bengali-English Code-Switching ASR:** Multilingual Speech Recognition
  Keywords: OpenAI Whisper, Custom Dataset, ASR, Code-switching

  Fine-tuned OpenAI Whisper Small model on custom-made Bengali-English dataset, enhancing multilingual speech recognition accuracy for low-resource language applications

- **Crop Recommendation System:**
  Keywords: Classification, Random Forest classifier, Supervised Learning

  Built ML classification model predicting optimal crops from soil nutrients (N-P-K), pH, and weather data. Compared 7 algorithms and implemented Random Forest achieving highest accuracy.

COURSEWORK

- Deep Learning
- Computer Vision
- Artificial Intelligence
- Time Series Analysis
- Machine Learning
- Econometrics & Finance
- Reinforcement Learning
- Distributed Computing

EDUCATION

- **Ramakrishna Mission Vivekananda Educational and Research Institute, Belur**
  M.Sc. in Big Data Analytics
   2024 – Started   Expected: July 2026

- **Salesian College, Siliguri**
  B.Sc.(Hons.) in Mathematics
   Completed July 2023

- **Siliguri Baradakanta vidyapith, Siliguri**
  Higher Secondary
   Completed July 2019

- **Margaret Sister Nivedita English School, Siliguri**
  Secondary
   Completed July 2017

TECHNICAL SKILLS

- **Programming:** Python
- **ML & AI:** Scikit-learn, PyTorch
- **Distributed Computing:** Ray Framework
- **Data Science:** Pandas, NumPy, Matplotlib, Seaborn, Plotly
- **Statistical Methods:** Regression Analysis, Hypothesis Testing, Statistical Modeling
- **Tools:** Git, Jupyter, Google Colab

ADDITIONAL QUALIFICATIONS

- **Core Competencies:** Research Methodology, Technical Documentation, Problem-Solving, Team Collaboration
- **Interests:** Bengali and English Literature, Emerging Technologies & Technical Research, Playing Badminton

ACHIEVEMENTS

- **First Place Winner** – Students' Seminar & Poster Presentation (presented on Stirling Numbers)