Soumen Mishra

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Summary

M.Tech candidate in Artificial Intelligence and Data Science skilled in Python, SQL, and Power BI, with hands-on experience in data analysis, visualization, and machine learning model development. Strong foundation in deep learning, NLP, and full-stack application integration, with research interests in Generative AI, Healthcare AI, and Cybersecurity.

Education

M.Tech in Artificial Intelligence and Data Science   **2024 – Present**
Amrita Vishwa Vidyapeetham, Faridabad, India   *CGPA: 7.29*

B.Tech (Hons.) in Computer Science and Engineering   **2020 – 2024**
XIM University, Bhubaneswar, India

Technical Skills

Programming Languages: Python, JavaScript, SQL, HTML, CSS
Frameworks & Libraries: TensorFlow, Keras, PyTorch, Scikit-learn, Flask, React.js, Node.js, Express.js
Data & Visualization Tools: Power BI, NumPy, Pandas, OpenCV, Matplotlib, Seaborn
Databases & Cloud: MySQL, MongoDB, Firebase, AWS, Git, GitHub, Docker
Core Concepts: Data Cleaning, EDA, Feature Engineering, Model Deployment, Transfer Learning, CNNs, REST APIs

Experience

AI and ML Intern   **July 2025 – Sept 2025**
Appinventiv, Noida (Hybrid)   *Python, TensorFlow, Keras, Scikit-learn, Pandas*

- Developed a **Facial Emotion Recognition (FER)** prototype integrating deep learning and recommendation systems to suggest songs based on user emotion.
- Implemented a **hybrid model using ResNet50V2** achieving a test accuracy of **63.34%** on FER2013 dataset, later optimized via fine-tuning and augmentation.
- Enhanced model efficiency and **prepared for API deployment** as part of a larger AI-driven recommendation pipeline.

Projects

Breast Ultrasound Image Classification | *Python, TensorFlow, Keras*   **Feb 2025 – April 2025**

- **Architected a deep learning pipeline** to classify breast ultrasound images as benign, malignant, or normal using a dataset of **780 images**.
- Employed **transfer learning** with the **InceptionV3** model, which achieved the highest test accuracy of **73.48%**, outperforming VGG16 and ResNet50.
- Addressed class imbalance and improved model generalization through **data augmentation** and **class weighting**, achieving a crucial **sensitivity of 61.29%** for malignant cases.

AI-Powered Content Generation Chatbot | *Python, Flutter, Flask, NLP*   **February 2025 – April 2025**

- **Developed a scalable AI chatbot** for content generation using **Flutter** (frontend) and a **Flask** (backend) hosted on Google Colab, leveraging Firebase for data management.
- Utilized multiple NLP models, including **GPT-2** for text generation and **BART** for summarization, to create a versatile tool for digital marketing.

Certifications

- **Introduction to Machine Learning on AWS – Coursera (2024):** View the Credentials Link.