Shubham Mishra

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Education

Chhatrapati Shahu Ji Maharaj University Completed May 2025

Bachelor of Technology in Computer Science (Specialization in AI), CGPA: 7.97/10.0 *Kanpur, Uttar Pradesh*

Experience

EI Systems Services /Certificate Jun 2024 — Jul 2024

Machine Learning Internship *New Delhi, India*

- Built and deployed machine learning models to enhance predictive analytics for client projects.
- Used Python and scikit-learn to train models on large datasets.
- Applied data preprocessing techniques like feature engineering and normalization for better accuracy.
- Designed and tested algorithms for **regression, classification, and clustering** to solve business challenges.

Projects

Vendors Management System / *Python, SQL* **GitHub**

- Developed Streamlined vendor management in a local market by developing a Python-based system integrating Tkinter for a user-friendly interface and SQLite for efficient data storage.
- Facilitated seamless communication, order processing, and collaboration between shopkeepers, dealers, and suppliers.

Curio Veda: Intelligence Knowledge Based Chatbot **Project Link**

- Built a chatbot using RAG architecture with LangChain, FAISS, and Llama, integrated into a Streamlit website

MediScan360 – Flask Website / *Python, TensorFlow, Flask* **Project Link**

- Built a machine learning application to predict chronic diseases, potentially aiding early detection and preventative measures.
- Deployed the heart attack risk prediction and Skin Cancer **Thyroid Detection model** as a user-friendly web application using Flask, making it accessible for individuals to assess their risk conveniently.

Research Work

Optimizing FAISS-Based Hybrid Indexing for Efficient Retrieval in RAG-Based Systems

- Investigated FAISS-based indexing methods (FLAT, IVF, HNSW) to improve retrieval in RAG models.
- Explored a hybrid approach combining BM25 with FAISS-based retrieval.
- Evaluated performance using BLEU, ROUGE, METEOR, and BERTScore.
- Demonstrated that HNSW indexing optimally balances retrieval efficiency and response quality.

Skills

- **Language**s**: Java**, **Python**, C**, SQL**
- **Technologies:** Machine Learning, Data Science, Natural Language Processing, **Artificial Intelligence**
- **Tools:** Git, GitHub, Linux**,** Jupyter
- **Coursework**: Operating systems, Data structures**,** Algorithms, Software Engineering, Database, Computer Network **Object-Oriented Programming,** Database Management System
- **Soft Skills:** Time Management, Teamwork, **Problem-solving**, Communication, Leadership

Certifications & Achievements

- advanced my expertise in AI through the Microsoft Learn AI Skills Challenge, demonstrating my ability to learn and adapt to new technologies**. |** **Certificate**
- Successfully completed an advanced Computer Vision course on Kaggle, gaining in-depth knowledge and hands-on experience in image processing, object detection, and classification techniques**. |** **Certificate**
- Completed a comprehensive **Machine Learning** course on Udemy, mastering key algorithms and techniques including supervised and unsupervised learning, model evaluation, and feature engineering**. |** **Certificate**