Munish Upadhyay

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Summary

- Computer Science undergraduate with hands-on experience in **software development, machine learning, and data-driven systems**. Strong proficiency in **C++, Java, Python**, and core CS fundamentals including **DSA, OOP, DBMS, OS, and Computer Networks**. Built and deployed end-to-end ML applications using **Scikit-learn, PyTorch, SQL, and cloud platforms** to develop scalable, production-grade systems.

Technical Skills

- **Programming**: C++, Java, Python, SQL
- **Data Structures & Algorithms**: Arrays, Trees, Graphs, Hashing, Dynamic Programming
- **Machine Learning**: Supervised & Unsupervised Learning, Model Evaluation, Feature Engineering
- **Frameworks & Libraries**: Scikit-learn, PyTorch, TensorFlow, Pandas, NumPy, OpenCV
- **Databases**: MySQL, JDBC
- **Tools & Platforms**: Git, GitHub, Docker, AWS, Render, Streamlit, Jupyter, Google Colab

Experience

- **Coding Jr.** — Remote
  Artificial Intelligence Intern — *Jun 2025 – Aug 2025*
  - **Model Development**: Designed, trained, and evaluated machine learning models for real-world problem statements using Python and Scikit-learn.
  - **Deployment**: Deployed ML models on cloud platforms, enabling scalable access through APIs and improving inference usability.
  - **Engineering Collaboration**: Worked in an Agile environment, collaborating with mentors to convert research prototypes into deployable solutions.

Projects

- **Smart Crop Recommendation System** — ML-Powered Agriculture
  Python, Scikit-learn, Pandas, Streamlit, Plotly, Weather API, Render — *GitHub*
  - **Machine Learning Model**: Developed a crop prediction system achieving **99.3% accuracy** using a Random Forest Classifier trained on soil and weather data.
  - **System Design**: Built an end-to-end ML pipeline including data preprocessing, feature engineering, model training, evaluation, and cloud deployment.
  - **API Integration**: Integrated live Weather API to enable real-time, data-driven crop recommendations.
  - **Deployment**: Deployed a full-stack Streamlit web application on Render with interactive data visualizations.
- **Brain Tumor Segmentation – BraTS 2020** — NeuroSegNet
  Python, PyTorch, 3D U-Net, Nibabel, NumPy, OpenCV — *GitHub*
  - **Deep Learning**: Implemented a 3D U-Net architecture for multi-modal MRI brain tumor segmentation using PyTorch.
  - **Data Processing**: Performed normalization, augmentation, and preprocessing on volumetric MRI data to improve model robustness.
  - **Evaluation**: Evaluated segmentation performance using Dice Coefficient and IoU metrics across multiple MRI modalities.
  - **Visualization**: Visualized 3D MRI slices and segmentation outputs using Matplotlib and OpenCV with GPU acceleration on Google Colab.
- **Expense Splitter Application** — Splitwise Clone
  Java, JDBC, MySQL, Swing(UI) — *GitHub*
  - **Desktop Application**: Developed a Java-based desktop application for trip-wise expense tracking and user authentication.
  - **Backend Logic**: Implemented transaction settlement logic and real-time balance reconciliation using Java and SQL.
  - **Database Design**: Designed a normalized MySQL schema and integrated it using JDBC for persistent data storage.
  - **Software Design**: Applied object-oriented design principles to ensure modular, maintainable, and reusable code.

Education

- **VIT Bhopal University** — Bhopal, Madhya Pradesh
  B.Tech in Computer Science & Engineering (CGPA: 8.99) — *Sept 2023 – May 2027*
- **Relevant Coursework**: Data Structures & Algorithms, OOP, DBMS, Operating Systems, Machine Learning, Artificial Intelligence

Certifications

- **Coursera — The Bits and Bytes of Computer Networking**
  Covered IP addressing, TCP/IP protocols, routing, DNS, and data transmission fundamentals. — *Certificate*
- **NPTEL — Introduction to Machine Learning**
  Studied core machine learning algorithms, model evaluation techniques, and hands-on implementation. — *Certificate*