Ashish Bairwa

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Professional Summary

Recent IIT Kanpur graduate with expertise in Machine Learning, Deep Learning, and Statistical Computing, seeking to apply advanced analytical and computational skills to pharmaceutical research and drug discovery. Proficient in developing predictive models, implementing neural networks, and solving complex algorithmic problems. Strong foundation in Python, C++, and data structures with proven ability to translate mathematical concepts into practical solutions for real-world applications.

Education

Indian Institute of Technology (IIT), Kanpur — Kanpur, India
Bachelor of Science in Mathematics and Scientific Computing — *Nov 2020 – May 2025*

- Relevant Coursework: Machine Learning, Deep Learning, Statistical Methods, Numerical Optimization, Data Structures and Algorithms, Probability Theory, Linear Algebra, Computational Mathematics

Technical Skills

Programming Languages: Python, C++, SQL, LaTeX
Machine Learning: Large Language Models (LLM), Neural Networks, Deep Learning, GANs, Supervised/Unsupervised Learning, Model Optimization, Feature Engineering
AI/ML Frameworks: TensorFlow, PyTorch, Keras, Scikit-learn, Pandas, NumPy, Matplotlib
Data Analysis: Statistical Modeling, Time Series Analysis, Predictive Analytics, Data Visualization, Regression Analysis
Technical Skills: Prompt Engineering, Object-Oriented Programming (OOP), Data Structures and Algorithms, Git/GitHub, Jupyter Notebooks
Domain Knowledge: Quantitative Analysis, Mathematical Modeling, Computational Statistics

Projects

Ethereum Price Prediction Model — IIT Kanpur
Machine Learning Engineer — *2023 – 2024*

- Developed time series forecasting model to predict Ethereum cryptocurrency prices using historical market data and technical indicators
- Implemented multiple ML algorithms including LSTM neural networks and regression models, achieving significant prediction accuracy
- Performed feature engineering and data preprocessing on large financial datasets with over 10,000 data points
- Applied statistical validation techniques and backtesting to ensure model robustness and generalization

Generative Adversarial Networks (GANs) Implementation — IIT Kanpur
Deep Learning Developer — *2023 – 2024*

- Designed and trained GAN architecture for synthetic data generation, demonstrating understanding of advanced neural network concepts
- Optimized model hyperparameters and training procedures to improve generation quality and convergence stability
- Utilized deep learning frameworks (TensorFlow/PyTorch) to implement complex neural network architectures

Automated File Management System — IIT Kanpur
Software Developer — *2022 – 2023*

- Built Python-based automation tool to classify and organize files using machine learning algorithms and rule-based logic
- Implemented object-oriented design patterns to create modular, maintainable, and scalable code architecture
- Reduced manual file organization time by 80 percent through intelligent automation and batch processing capabilities

Achievements

Competitive Programming: Active competitor on Codeforces, LeetCode, and CodeChef with demonstrated problem-solving skills in algorithmic challenges and optimization problems
Academic Excellence: Graduated from prestigious IIT Kanpur with strong foundation in mathematical modeling and computational methods applicable to pharmaceutical research
IIT-JEE Advanced: Ranked among top 10,000 students nationwide in one of the world's most competitive engineering entrance examinations

Certifications

Neural Networks and Deep Learning – Coursera/DeepLearning.AI
Machine Learning Specialization – Coursera/Stanford University
Prompt Engineering for ChatGPT – Coursera