# Vineet Kumar Verma

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# **Professional Summary**

Passionate and dedicated Data Scientist and AI Engineer with strong foundation in machine learning, deep learning, and artificial intelligence. Recently graduated with Bachelor's in Computer Application and equipped with comprehensive knowledge of modern data science tools, techniques, and frameworks. Proven ability to develop innovative solutions through 20+ hands-on projects spanning various domains of AI and data science.

### **Education**

### **Bachelor of Computer Application (BCA)**

June 2022 - August 2025

Relevant Coursework: Data Structures, Algorithms, Statistics, Database Management, Software Engineering

## **Certifications**

- Machine Learning Certificate Kaggle
- Deep Learning Certificate Kaggle

## **Technical Skills**

## **Programming Languages**

- Python (NumPy, Pandas, Scikit-learn, TensorFlow, Java (Basic proficiency) PyTorch, Keras)
- R (dplyr, ggplot2, tidyr, caret)
- SQL (MySQL, PostgreSQL, SQLite)

- JavaScript (Basic proficiency)
- C++ (Basic proficiency)

## **Machine Learning & Al**

- Supervised Learning: Linear/Logistic Regression, Decision Trees, Random Forest, SVM, KNN, Naive Bayes
- Unsupervised Learning: K-Means, Hierarchical Clustering, PCA, t-SNE
- Deep Learning: Neural Networks, CNN, RNN, LSTM, GRU, Transformer Architectures
- Reinforcement Learning: Q-Learning, Policy **Gradient Methods**
- Natural Language Processing: NLTK, spaCy, Transformers, BERT, GPT
- Computer Vision: OpenCV, Image Classification, Object Detection
- Time Series Analysis: ARIMA, Prophet

## **Data Science & Analytics**

- Data Manipulation: Pandas, NumPy, Data Cleaning, Feature Engineering
- Statistical Analysis: Hypothesis Testing, A/B Testing, Bayesian Statistics
- Data Visualization: Matplotlib, Seaborn, Plotly, Tableau, Power BI
- Big Data: Apache Spark, Hadoop, Kafka
- Databases: MongoDB, Cassandra, Redis

### Cloud & MLOps

- Cloud Platforms: AWS (SageMaker, S3, Lambda),
  GCP, Azure
- MLOps Tools: MLflow, Docker, Kubernetes, Git, Jenkins
- Model Deployment: Flask, FastAPI, Streamlit, Gradio
- Monitoring: Model Performance Tracking, Data Drift Detection

### **AI Frameworks & Libraries**

- Deep Learning: TensorFlow, PyTorch, Keras, JAX
- ML Libraries: Scikit-learn, XGBoost, LightGBM, CatBoost
- NLP Frameworks: Hugging Face Transformers, spaCy, NLTK, Gensim
- Computer Vision: OpenCV, PIL, Albumentations
- Al Agent Frameworks: LangChain, LlamaIndex, Haystack

### **Development & Tools**

- IDEs: Jupyter Notebook, PyCharm, VS Code, RStudio
- Version Control: Git, GitHub, GitLab
- Data Engineering: Apache Airflow, Apache Beam
- Web Development: HTML, CSS, Bootstrap (Basic)
- API Development: REST APIs, GraphQL
- Testing: pytest, unittest

### **Soft Skills**

- Problem Solving & Analytical Thinking
- Research & Continuous Learning
- Project Management

- Team Collaboration
- Communication & Presentation
- Critical Thinking & Decision Making
- Adaptability & Innovation

# **Featured Projects**

### 1. Intelligent Customer Churn Prediction System

Technologies: Python, Scikit-learn, XGBoost, Pandas, Streamlit

- Developed end-to-end ML pipeline to predict customer churn with 94% accuracy
- Implemented advanced feature engineering and hyperparameter optimization
- Created interactive web app for real-time predictions and business insights
- Deployed model on cloud with automated retraining

#### 2. Advanced Sentiment Analysis for Social Media

Technologies: Python, BERT, Transformers, PyTorch, Flask, Docker

- Built NLP model using pre-trained BERT for multi-class sentiment classification
- Achieved 91% accuracy with 100K+ social media samples
- Implemented real-time sentiment API with data preprocessing

Containerized app and deployed on scalable cloud platform

#### 3. Computer Vision-Based Medical Image Analysis

Technologies: TensorFlow, CNN, OpenCV, Keras, Python

- Designed deep learning model for anomaly detection in medical images
- Achieved 96% precision using advanced CNN architectures
- Applied data augmentation and transfer learning
- Created detailed evaluation framework

#### 4. Real-Time Stock Market Prediction System

Technologies: Python, LSTM, Time Series Analysis, Prophet, Plotly

- Developed LSTM-based time series forecasting model
- Integrated multiple data sources including news sentiment
- Built interactive dashboard for real-time trend visualization
- Maintained robust backtesting framework for accuracy

#### 5. Intelligent Recommendation Engine

Technologies: Python, Collaborative Filtering, Matrix Factorization, Spark

- Implemented hybrid recommender system with collaborative and content-based filtering
- Processed large-scale user interaction data with distributed computing
- Improved recommendation relevance by 40%
- Deployed scalable real-time recommendation system

Successfully completed 20+ projects covering diverse domains including Fake News Detection, Facial Recognition, Fraud Detection, House Price Prediction, Chatbots, Image Classification, and more.

## **Achievements & Interests**

- Completed 20+ comprehensive projects in Data Science and AI
- Exploration and research in Generative Al and Large Language Models
- Regular contributor to open-source projects and technical forums
- Continuously updating skills with industry trends and advanced technologies
- Passionate about AI, Machine Learning Research, Data Visualization, Cloud Computing

## **Availability**

Available for immediate joining as a Data Scientist, Al Engineer, or Machine Learning Engineer. Open to remote or on-site opportunities.