

# Dhruv Sood

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## EDUCATION

New York University, New York, United States

Sep 2023 - May 2025

**Master of Science - Information Systems, Computer and Information Sciences**

Vellore Institute of Technology, Vellore, India

Jul 2019 - Jun 2023

**Bachelor of Technology - Computer Science**

Coursework: Data Science, Data Mining, Database Management Systems, Applied Statistics, Business Analytics, Data Visualization

## TECHNICAL SKILLS

**Programming & Tools** – Python, C++, SQL, Tableau, Power BI, Kafka, GCP, Microsoft Azure, AWS, Git, Hadoop, Flask, FastAPI

**Libraries & Frameworks** – Tensorflow, PyTorch, Keras, Numpy, Pandas, Darknet, Spark, Scikit-learn, Matplotlib, Seaborn

**Techniques** – Statistical Analysis, Predictive Modelling, Data Mining, Data Analytics, Deep Learning, ETL Processes, Fine Tuning

**Generative AI & LLMs** – Hugging Face, LangChain, OpenAI API, Prompt Engineering, Large Language Models, NLP Pipelines

## PROFESSIONAL EXPERIENCE

Dassault Systèmes

Jun 2024 - Aug 2024

*Data Science Intern*

- Reduced downtime and maintenance costs of automotive welding systems by 15% through a predictive maintenance model using time-series sensor data and failure analysis
- Delivered 99% accuracy by constructing and fine-tuning an XGBoost classification model with SMOTE rebalancing, hyperparameter tuning, and A/B testing
- Transformed raw sensor logs into actionable insights using SQL and Pipeline Pilot for correlation and trend analysis, uncovering hidden failure drivers that boosted predictive model accuracy by 20%
- Built and deployed ETL pipelines using Python and SQL to ingest, clean, and transform 5 million+ sensor records on AWS for scalable model training and real-time analytics

Ernst & Young

Sep 2022 - Apr 2023

*Data Science Intern*

- Increased vehicle safety by 30% through timely detection of dashboard warnings using an ML-based vision system
- Devised an ML model leveraging the transformer-based YOLOv7 algorithm to identify warning signal lights
- Collaborated with cross-functional teams to integrate the ML model into a mobile app, using AWS EC2 for model hosting, resulting in a 30% improvement in real-time warning detection accuracy.
- Enhanced model accuracy and robustness for the image detection model by applying the bagging technique and using different backbone architectures, achieving 98% accuracy in object identification

Vellore Institute of Technology

Aug 2021 - Feb 2022

*Research Intern*

- Achieved 98.6% accuracy in detecting deepfake media by developing an ensemble model in Python using Xception and Inception-ResNet-v2
- Implemented multi-scale training, optimized hyperparameters, and applied advanced image processing techniques with varied backbone architectures to enhance robustness and reduce false positives
- Constructed a custom dataset of 20,000+ images and 1,000 videos, annotated via Roboflow to ensure accurate real vs. manipulated media classification

## ACADEMIC PROJECT

**Predicting Trends in Ethical Consumerism**

Aug 2024 - Dec 2024

- Leveraged NLP techniques and Large Language Models (LLMs) to analyze sentiment in Reddit discussions, utilizing APIs and advanced sentiment analysis tools (VADER, TextBlob) to map stock trends
- Built a Python pipeline on NYU HPC to process sentiment data and align it with stock prices via the yfinance API
- Streamlined data collection by managing API rate limits and refining filtering techniques for sentiment-driven stock trends

**Cardiovascular Disease Analysis Using Machine Learning**

Jan 2024 - Apr 2024

- Designed Tableau dashboards analyzing patient data, improving clarity on the top three cardiovascular disease risk factors by 30%
- Queried and preprocessed 500,000 patient records using SQL for Tableau analysis and visualization
- Performed feature engineering and exploratory data analysis using DataRobot, improving data comprehensibility by 25%
- Conducted research and delivered data-driven critical insights to diverse stakeholders involved in decision-making

## ADDITIONAL COURSES AND CERTIFICATIONS

- Generative AI with LLMs – DeepLearning.AI
- Google Data Analytics Professional Certificate – Google
- Microsoft Power BI Data Analyst Professional Certificate – Microsoft