

ISHITA TIWARI

Aspiring Data Analyst | Machine Learning & AI Enthusiast | Python | SQL

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PROFESSIONAL SUMMARY

MCA graduate who has applied Python, SQL, machine learning, and deep learning to solve real analytical problems — including a self-built diabetic retinopathy detection system (EfficientNet-B5, 0.94 Quadratic Weighted Kappa) trained on medical imaging data, and an SVM-based classification model that reached 91% accuracy on a 10,000+ record dataset. Comfortable running a full pipeline end-to-end: cleaning and exploring data, engineering features, training and evaluating models, and communicating results through Power BI and Tableau dashboards. Looking to bring this project-driven, hands-on experience to an entry-level role or internship in Data Analytics, Data Science, or Machine Learning.

SKILLS

Programming: Python, SQL, Object-Oriented Programming (OOP)

Data Analysis: Data Cleaning, Data Wrangling, Exploratory Data Analysis (EDA), Statistical Analysis

Machine Learning: Supervised Learning, Classification, Feature Engineering, Model Evaluation, Deep Learning (CNNs, Transfer Learning, ANN)

Libraries & Frameworks: Pandas, NumPy, Matplotlib, Scikit-learn, PyTorch, TensorFlow / Keras, OpenCV, Albumentations, timm

Databases: MySQL

Visualization & BI Tools: Power BI, Tableau

Core Competencies: Analytical Thinking, Problem-Solving, Research Mindset, Attention to Detail, Communication, Continuous Learning

ACADEMIC PROJECTS

Diabetic Retinopathy Detection System | Python, PyTorch, timm (EfficientNet-B5), OpenCV, Albumentations

Jan – May 2026

Individual Project

- Built an end-to-end deep learning pipeline to classify diabetic retinopathy severity (5 stages, Normal to Proliferative) from retinal fundus images using the APTOS 2019 dataset (~3,300 images)
- Designed a custom preprocessing pipeline — cropping black borders, CLAHE contrast enhancement, and resizing — and applied augmentation (flips, rotation, brightness/contrast, dropout) to improve generalization
- Tackled severe class imbalance using a weighted random sampler and Focal Loss while fine-tuning a pretrained EfficientNet-B5 (via timm) across two independently seeded runs with checkpointing and early stopping
- Optimized classification thresholds to maximize Quadratic Weighted Kappa (QWK) and ensembled both trained models to boost final performance
- Achieved a final QWK of 0.94 and 86% validation accuracy, evaluated via confusion matrix and per-class precision/recall/F1 analysis

Gait Recognition System | Python, Pandas, Scikit-learn, SVM

Jan – April 2025

Team Project — 3 Members

- Led a 3-member team to build a behavioral-biometrics system that identifies individuals from walking-pattern data across a 10,000+ record dataset
- Owned end-to-end data preparation — cleaning, normalizing, and engineering features from raw sensor data — and delivered a model-ready dataset to teammates for training
- Oversaw the overall workflow across the team, coordinating EDA, model development, and evaluation to keep the project on track
- Guided the team to a final SVM classifier reaching 91% accuracy, validated against baseline approaches

EDUCATION

Master of Computer Applications (MCA)

2024 – 2026

Manipal University Jaipur

CGPA: 8.68 / 10

Bachelor of Computer Applications (BCA)

2021 – 2024

Govt. E. Raghvendra Rao PG Science College

Percentage: 71%

PUBLICATIONS

"ANN-Based Predictive Model for Employee Attrition in an Organization"

Conference: ComSIA 2026, Delhi — 2026 ([LINK](#))

CERTIFICATIONS

- Data Science – Infosys Springboard ([Link](#))
- Data Science and Machine Learning Bootcamp – Udemy ([Link](#))

EXTRACURRICULAR ACTIVITIES

National Service Scheme (NSS) Volunteer

2021 – 2023

Govt. E. Raghvendra Rao PG Science College

- Volunteered with NSS for 1.5 years, contributing to awareness, blood donation, and tree plantation camps
- Coordinated the team responsible for designing and creating campaign posters for camp awareness drives
- Mentored and guided a junior volunteer team, supporting them in camp activities and coordination