Diya Goswami

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EDUCATION

Vellore Institute of Technology, Bhopal — Bhopal, India
B. Tech Computer Science & Engineering with specialization in Health Informatics — *Sep 2022 – July 2026*
8.98 CGPA

Auxilium Girls' School — Tripura, India
Higher Secondary — *March 2021 – April 2022*
95.2 Percentage

Auxilium Girls' School — Tripura, India
Higher School — *March 2019 – April 2020*
96.2 Percentage

PROJECTS

AI-Augmented Cardiac Risk Prediction using Synthetic Data Generation Techniques Nov 2024-May 2025

- Built a synthetic data pipeline using CTGAN, VAE, and Table Diffusion to address dataset imbalance in heart disease prediction.
- Trained multiple models (SVM, XGBoost, CNN, Ensemble) achieving 85.85% accuracy with KNN on VAE data, 83.7% with Ridge Regression on Diffusion data, and consistent improvements across precision/recall (avg. 0.86 F1-score).
- Validated results with confusion matrices, showing reduced false negatives and improved diagnostic reliability using synthetic datasets.

AgriVision: AI-Powered Plant Disease Detection May 2024- Dec 2024

- Fine-tuned MobileNetV2 with transfer learning on the PlantVillage dataset which included 70k+ training, 17k validation images across 38 classes, achieving 94.05% validation accuracy and 98.01% training accuracy.
- Implemented with TensorFlow, Keras, Python, using data augmentation & dropout to improve generalization; optimized for real-time deployment in mobile/edge environments.
- Delivered high per-class precision with minimal misclassification supporting precision agriculture, reduced losses, and food security.

SkinSight: Intelligent Skin Type Detection System June 2023- April 2024

- Built a real-time CNN, ResNet-50 and Haar Cascade–based skin type detector on Raspberry Pi 5 + Logitech C920, achieving 80.38% accuracy (Dry: 56/73, Normal: 98/120, Oily: 100/123).
- Optimized with TensorFlow, Keras, OpenCV, and quantized models for low-latency edge deployment; integrated LED ring light and one-way mirror UI for clinical-grade usability.
- Applications in personalized dermatology, cosmetic recommendations, and telemedicine; demonstrated at ETESM-2025.

TECHNICAL SKILLS

Languages: Java, Python, C++, R, SQL
Frameworks and Libraries: TensorFlow, PyTorch, Scikit-learn, Pandas, NumPy, Keras, Matplotlib
Developer Tools: Git, GitHub, Jupyter, Google Colab, Tableau, Power BI
Other Skills: Data Structures, Problem Solving, Machine Learning, Deep Learning, Generative AI

CO-CURRICULAR

- Smart India Hackathon 2024 Finalist
- Health Hackathon JHU & VITB Finalist
- Presented and Published research work on ML in cardiac disease prediction in ICDCC 2024
- Core Member, Eureka Club, VIT Bhopal