

# APEX ARYAN DAS

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## EDUCATION

### VIT Bhopal University

B.Tech in Computer Science & Engineering

May 2026

Kothri Kalan, Madhya Pradesh

### Mother's Public School

Senior Secondary (Class 12) – CBSE, 86.9%

July 2022

Bhubaneswar, Odisha

### DAV Public School, JA

Secondary Education (Class 10) – CBSE, 94.6%

March 2020

Talcher, Odisha

## TECHNICAL SKILLS

**Languages:** C++, Java, Python, JavaScript, Rust, SQL, HTML/CSS

**ML/AI Frameworks:** TensorFlow, PyTorch, Scikit-learn, OpenCV, Pandas, NumPy

**ML/AI Concepts:** Deep Learning, CNN, LSTM, Computer Vision, NLP, Feature Engineering

**Cloud & DevOps:** AWS, Docker, CI/CD, REST APIs, Microservices, FastAPI

**Developer Tools:** Git, GitHub, Postman, Linux, Agile Methodology

**Databases Systems:** MySQL, System Architecture, OOP, Data Structures, Algorithms

## PROJECTS

### IoT Failure Forecasting with LSTMs | [GitHub](#) | [Python](#), [TensorFlow](#)

February 2025

- Engineered a 2-stage LSTM autoencoder pipeline to forecast IoT device failures, improving infrastructure monitoring across 32+ sensors.
- Achieved 99.69% fault prediction accuracy on the Intel Berkeley Lab dataset through threshold-based classification.
- Streamlined temporal analysis by implementing a sliding-window approach to capture time-dependent fault patterns.

### Full-Stack Agricultural AI Platform | [GitHub](#) | [FastAPI](#), [TensorFlow](#)

April 2025

- Spearheaded an 8-member team to develop a full-stack AI platform providing crop, fertilizer, and disease insights.
- Architected a scalable REST API with FastAPI to serve 6 concurrent ML models, ensuring high availability.
- Implemented comprehensive back-end data validation and error handling to guarantee robust, real-time predictions.

### High-Speed Concurrent HTTP Downloader | [GitHub](#) | [Rust](#), [Tokio](#)

September 2025

- Developed a concurrent downloader in Rust with Tokio, accelerating download speeds by 10x over standard tools.
- Boosted download speeds by an additional 6x by implementing multi-threaded chunking via HTTP range requests.
- Authored a user-friendly CLI featuring real-time progress bars, speed monitoring, and accurate ETA calculations.

### Ensemble Model for Sickle Cell Detection | [GitHub](#) | [Python](#), [TensorFlow](#)

March 2024

- Directed a 5-person team to build a hybrid CNN & K-NN classifier that automates sickle cell detection.
- Increased classification accuracy to 98.5% by implementing an ensemble voting mechanism.
- Established a robust data pipeline for processing, normalizing, and augmenting over 7,000 microscopy images for model training.

### Bell Pepper Disease Classification | [GitHub](#) | [Python](#), [TensorFlow](#)

August 2025

- Devised and trained a custom 3-layer CNN that achieved 99.9% test accuracy in classifying bacterial spot across 2,475 images.
- Constructed an optimized data pipeline with TensorFlow, leveraging image augmentation, caching, and prefetching to accelerate training.

## CERTIFICATIONS

### AWS Solutions Architect - Associate

April 2025

Ethnus (Codemithra)

Online

### Industrial IoT Markets and Security

November 2024

University of Colorado Boulder (Coursera)

Online

### The Bits and Bytes of Computer Networking

December 2023

Google (Coursera)

Online