

Harshwardhan Fartale

Nagpur, Maharashtra, India

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Education

National Institute of Technology, Hamirpur

B.Tech in Electrical Engineering

CGPI - 8.56

Dec 2020 - May 2024

Yashoda High School and Junior College

HSC - Higher Secondary Education

Percentage - 80%

May 2017 - May 2019

Somalwar High School, Ramdaspeth

SSC - Secondary School Certificate

Percentage - 96.4%

Apr 2014 - Apr 2017

Work Experience

DRDO & (IISC) Indian Institute of Science, Bangalore

Project Associate

July 2024 - Present

- Developing comprehensive Machine Learning (ML) systems for CASDIC's (Combat Aircraft Systems Development & Integration Centre) combat aircraft applications

Bajaj Finserv Health

Data Science Intern

Jan 2024 - June 2024

- Designed and implemented a high-performance statistical model for fraudulent transaction prediction, achieving the highest abuse detection rate among all models

OpenMined

Open Source Technical Writer

Jan 2023 - June 2023

- Collaborated with the writing team to improve existing user documentation and beginner tutorials in differential privacy
- Active technical writer and contributor, publishing blog posts and articles about federated learning and privacy-preserving machine learning resulting in increased product adoption.

IIT Indore

Machine Learning Internship

June 2023 - July 2023

- Developed ML models predicting stock prices using Python, achieving 85% accuracy. Incorporated news and market data to improve forecasts.
- Implemented time series analysis and feature engineering, boosting model accuracy by 25%. Enabled data-driven decision making
- Collaborated with Professor Vimal Bhatia on applying advanced techniques like RNNs for real-time forecasting

Key Projects

Document Tampering Detection using YOLOV8

Self Project

- Developed a comprehensive forgery detection system with YOLOV8 to identify and classify fraudulent alterations such as **overwriting**, **scribbling**, and **whitener** use, alongside building an extensive dataset of over 600 document images to train the model for accurate manipulation detection.
- Designed a **Streamlit-based** web interface facilitating intuitive document uploads, enabling users to visualize tampering and analyze detailed results of digital forgery assessments.

Fundus AI

Guide - Dr. Amit Kaul

- Developed a Complete end-to-end solution to detect eye as well as systemic diseases such as **Diabetic Retinopathy**, **Cataract**, **Glaucoma**, **ARMD**, **Hypertensive Retinopathy**
- Developed deep learning smartphone app for efficient ophthalmic disease screening utilizing device camera for accessible healthcare
- Designed 3D-printed smartphone accessory for capturing high-quality fundus imaging compatible with all smartphones and the application
- Technologies used:** Python, Keras, Tensorflow, Flutter

Skills

Languages

Python, C++, SQL, Solidity

Python Libraries

NumPy, pandas, Matplotlib, Scikit-learn, JAX, OpenCV, spacy, YOLOV8

Deep Learning

Tensorflow, Pytorch, PySyft, OpenCV, Neo4j

Other Softwares/Platforms

LaTeX, MATLAB, Linux Kernel, Google Cloud Platform, Firebase, Adobe Illustrator.

Technical Writing

LLM-Blog, Medium, Hashnode

Positions of Responsibility

Joint Secretary

Indian Society for Technical Education

NIT Hamirpur

June 2023 - Present

Secretary

Hult Prize 2023 NIT Hamirpur

NIT Hamirpur

Oct 2022 - March 2023

Cloud Facilitator

Google Developer Students' Club

NIT Hamirpur

June 2021 - Dec 2022