

Avaneesh

3.5+ years (Machine Learning + Computer Vision + Audio Processing + Edge Computing)

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Experience

Foqal Analytics, Gurugram

Aug. 2025 - Present

Data Scientist

Python, AI, Computer Vision, YOLO, Edge Computing, GCP

- Developed **YOLO-based food detection system** with 92-95% accuracy and integrated it with Local Edge Processing Hub (LEPH) for real-time POS inventory reconciliation. Designed **automated quality scoring system** for streamlined quality control workflows, improving product consistency and reducing manual QC overhead.
- Built real-time demographic detection and multi-person tracking pipeline for retail store analytics. Automated traffic reports segmenting customers by gender, age group, and visitor type, improving inventory planning and sales analytics.

Samsung Research & Development Institute, Noida

Jun. 2022 - July. 2025

Engineer- Health AI Innovations Lab

Python, Machine Learning, Deep Learning, Digital Signal Processing

- Collaborated with Google to develop an API for storing Public Health data, enabling third-party access and user control over data privacy.
- Developed **Human Posture Recognition** using machine learning, achieving 96% dataset accuracy and 86% real-time accuracy; presented at Samsung Mobile Developer Conference.
- **Patent** for daily activity recognition based on intensity.
- Created a deep learning model for **Blood Glucose Prediction** using ECG and PPG from wearables, classifying users into hypoglycemic, normoglycemic, and hyperglycemic states.
- Enhanced **Snore Detection** for Samsung Health, improving accuracy to 97% on dataset and 88% real-time, boosting detection by 150% over third-party solutions.
- **Achievement:** Cleared Advanced Software Competency Test; Filed patent for daily activity recognition based on intensity.

Samsung Research & Development Institute, Noida

Feb. 2022 - Jun. 2022

Intern

Machine Learning, Software Development

- Developed **6-Minute Walk Test Distance Estimation** to assess functional capacity using physical activity data. Contact: Ritesh Sinha (ritesh.sinha@samsung.com).

Indian Institute of Technology Delhi

Jul. 2021 - Nov. 2021

Research Intern

CNN, Edge Computing, Optimization

- Researched latency-memory optimized splitting of Convolutional Neural Networks (CNN) for resource-constrained edge devices; published in COMSNETS 2022. Contact: Dr. Rajeev Shorey (rajeevshorey@gmail.com).

Adani Defence and Aerospace, Delhi

Sep. 2019 - Mar. 2020

Development Engineer Intern

UAV, Computer Vision, Software Development

- Core member of Unmanned Aerial Systems team for Indian Air Force "Mehtar Baba Prize"; developed real-time human/object detection, scalable swarm communication, and visual odometry for UAVs in GPS-denied environments. Contact: Ashish Rajvanshi (ashish.rajvanshi@adani.com).

Projects

Autonomous Human-Tracking Drone

Jun. 2019 - Sep. 2019

Real-Time Tracking

Computer Vision, On-Board Computing, Robotics

- Built a drone for real-time human tracking using on-board computer vision algorithms.

Indian Air-Force Mehtar Baba Prize

Sep. 2018 - Dec. 2020

Swarm Drone Technology

UAV, Swarming, Detection

- Developed swarm UAVs with robust swarming architecture, real-time obstacle avoidance, and human detection; won best communication architecture award.

Time Series Web Forecasting

Aug. 2020 - Nov. 2020

Web Traffic Prediction

LSTM, Deep Learning

- Created an LSTM-based model to forecast web traffic across multiple sites.

Skills

Languages & Concepts:

C++, Python, Data Structures, Algorithms, Digital Signal Processing (DSP), System Design

Technologies & Tools:

Machine Learning, Deep Learning, Computer Vision, PyTorch, TensorFlow, Keras, OpenCV, MATLAB, GitHub, Linux, Sockets

Achievements

Competitions & Awards

- National Science Olympiad: International Rank 115 (2013), 777 (2014)
- International Mathematics Olympiad: International Rank 1363 (2014)
- Team UAS-DTU: Best Communication Architecture, IAF Mehar Baba Prize
- Ranked 1st in Formation Flying, Drone Olympics (Aero India)

Certifications

Professional Development

- Deep Learning by deeplearning.ai (Coursera, Aug. 2019)
- Machine Learning by Stanford University (Coursera, Jun. 2020)

Education

Delhi Technological University

B.Tech in Computer Engineering

Thesis: Domain Adaptive Transfer Learning for Low-Light Object Detection

2018 - 2022

CGPA: 8.09

Kendriya Vidyalaya 2 Delhi (AISSCE/CBSE Class XII) 2016 - 2017

91.8%

Kendriya Vidyalaya 2 Delhi (AISSCE/CBSE Class X) 2014 - 2015

10.0 CGPA