

## ABOUT

Detail-oriented engineer with hands-on experience in designing and deploying deep learning models using YOLO, Tensorflow and PyTorch. Strong background in mathematics and algorithmic development with real-world applications in embedded devices, automation and industrial control systems.

## EXPERIENCE

- **Engineers India Limited [🌐]** 2023 - present  
*Engineer* Gurgaon, India
  - Automated the calculation and tracking of scope changes and instrumentation items availability for Control Systems in the HRRL Refinery DFCU unit (HPCL Rajasthan Refinery Limited), streamlining project requirement updates and inventory management.
  - Engineered instrumentation requirements and integrated technical solutions in the construction process of the Panipat(P-25) refinery expansion project.
- **DeepSight AI Labs [🌐]** Dec 2022- June 2023  
*Computer Vision Intern* Gurgaon, India
  - Feasibility study, training and deploying object detection model YOLOv5 trained on the DFS dataset, for fire and smoke detection achieving 87 percent accuracy further deployed on Raspberry Pi to test real-time performance.
  - Utilized Postman and Wireshark for API testing and reverse engineering of Hikvision and Dahua SDKs, enabling seamless remote configuration and management of camera settings within the DeepSight analytics platform.
  - Designed and implemented a scalable back-end for a payroll analytics system capable of efficiently processing large Excel files for wage calculations, ensuring compliance with dynamic minimum wage policies across multiple states.
- **Defence Research and Development Organization [🌐]** May 2022 - June 2022  
*Trainee* Uttrakhand, India
  - Implemented real-time object detection using TensorFlow Lite on Raspberry Pi 3B+.

## EDUCATION

Degree/Certificate	Institute/Board	CGPA/Percentage
B.Tech., ICE	National Institute of Technology, Jalandhar	7.97/10
Senior Secondary	CBSE	81.8/100
Secondary	CBSE	10/10

## PROJECTS

- **Imitating human hand movement to mechanical hand using camera**  
*Tools: Mediapipe, Deep Learning, Socket Programming, ESP32 microcontroller Programming*
  - Built a real time working prototype of mechanical arm for pose detection using mediapipe and imitating arm movement visually using camera into a mechanical arm using serial communication.
- **Emotion recognition of Tweets**  
*Tools: Python Programming, tensorflow, Hugging face, Sk-Learn*
  - Using hugging face model to classify tweets into categories of sadness, joy, happy, love, surprise

## SKILLS

- **Programming Languages:** [Python, C, C++, Octave]
- **Core competencies:** [Advance Mathematics, Advance Statistics, Data Structure and algorithms, AI search techniques(informed, non informed, adversarial), knowledge representation and Logic, Machine Learning and deep Learning algorithms, Digital Electronics, System and Control]
- **Tools:** [ROS, OOPs, OpenCV ,CUDA , Tensorflow, Pytorch, Scikit Learn, matplotlib, numpy, pandas , Postman, Wireshark, Docker]

## CERTIFICATIONS

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- **Introduction to TensorFlow and AI for Machine Learning and Deep Learning**, [Certification 1](#)
- **Neural Network and Deep Learning**, [Certification 2](#)
- **Convolutional Neural Network**, [Certification 3](#)
- **Using Python to access Web Data**, [Certification 4](#)

## ACHIEVEMENTS

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- Runner-up in the Inter PSU-PSPB National Chess Tournament (Non-professional category)
- Qualified JEE Advcanced (2019)
- Qualified GATE in Instrumentation Eng (2023)
- Qualified GATE Data Science and AI (2025)