

## EDUCATION

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**Bachelor of Technology, Computer Science Engineering** GPA:9.6/10  
Guru Gobind Singh Indraprastha University, Delhi

Jul 2019 — Jun 2023

## EXPERIENCE

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### ML Intern

Feb 2023 — Present

Wadhvani Institute for Artificial Intelligence

Delhi, India

- Working with the Cotton ML team in developing Cotton Ace- A smart solutions for pest management in cotton crops.

### Research Intern

Aug 2022 — Feb 2023

Indian Institute of Technology Delhi

Delhi, India

- Working under the guidance of **Prof. Chetan Arora** and **Prof. M. Balakrishnan** on optimising and improving existing object detection models for MAVI (Mobility Assistance for Visually Impaired).
- Working under the guidance of **Prof. Chetan Arora** on explaining model predictions made on ultrasonography images for gall bladder cancer (GBC) detection. Specifically dealing with explainability of Vision Transformers, Weakly supervised object detection and multiple instance learning.

### Summer Research Fellow (SRF)

Jun 2022 — Aug 2022

Indian Institute of Technology Delhi

Delhi, India

- Worked under the guidance of **Prof. Chetan Arora** and **Prof. M. Balakrishnan** on optimising deep learning models for scene-text recognition using edge devices [MAVI (Mobility Assistance for Visually Impaired)].
- Refactored and upgraded the existing models to the latest versions of firmware [OS, and other dependencies (OpenVINO 2022, PyCam 2.0)]. Converted and tested VisionLAN (Vision Transformer + Language Model) to ONNX and OpenVINO IR and evaluated the inferences generated from MAVI.

## PROJECTS

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### AIDE, Artificial Intelligence Guide for Visually Impaired

[link](#)

- Developed AIDE - (An audio guide for visually impaired persons navigation and assistance). The project is an improved implementation of YOLO v3 Algorithm for object detection and classification and Canny's Edge detection algorithm for lane detection and navigation.

### STOCKDL, Efficient Prediction of Annual Yield from Stocks Using Hybrid Deep Learning

[link](#)

- A financial deep learning library for stocks price prediction and comparison with traditional investment strategies. The Library is based on LSTM-Neural Networks and Conv1D + LSTM Neural Networks.

### IMGPROVE, Image Super-Resolution

[link](#)

- Developed deep-learning solution to improve the quality of low-resolution images. This API improves the resolution of a 100x100 image to 400x400. Also helpful in optimizing data storage in cloud based servers without compromising much with the quality of the image.

## SKILLS

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**Programming Languages** Python, C++, Java, JavaScript, C

**Machine Learning and Deep Learning Frameworks** PyTorch, TensorFlow, Keras, TenorFlow.js

**Web Technologies and Other Tools** Flask, JavaScript, HTML/CSS, Git, AWS, GCP, Azure,  $\LaTeX$ , MySQL, PostgreSQL, Scikit Learn, OpenCV

## PUBLICATIONS

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- Papanai, A. et al. *Vhanced: Efficient Video Super Resolution for Edge Devices* in *DELCON 2023 (IEEE Delhi Section Flagship Conference)* (2023).
- Papanai, A. & Kaushik, H. *Hybrid Image Processing Device as Wearable Aide for Visually Impaired* in *2022 8th International Conference on Advanced Computing and Communication Systems (ICACCS)* **1** (2022), 733–738.
- Papanai, A. *Efficient Prediction of Annual Yield from Stocks Using Hybrid Deep Learning*. *2022 4th International Conference on Machine Intelligence and Signal Processing (MISP2022)* (2022).

## AWARDS & HONORS

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**2022** Winner, UNESCO India Africa Hackathon 2022 [Ministry of Education of India]

**2022** Winner, Smart India Hackathon 2022 (Software Edition) [Ministry of Education of India]

**2022** Selected as UG Summer Research Fellow @ IIT Delhi