

# Ashish Goswami

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## EDUCATION

### IIT-Delhi

PhD, School of AI  
2022-2026 (Tentative)  
Cum. GPA: 8.8/ 10.0

### IIIT-Guwahati

B.Tech in Electronics and Comm.  
2018-2022  
Cum. GPA: 8.5/ 10.0

## SKILLS

### Technical Skills:

Deep Learning, Computer Vision,  
NLP, Adversarial Networks

### Frameworks:

Pytorch, Lightning, Keras, OpenCV,  
Flask

### Languages and Libraries:

Python, C, Java, Numpy, Pandas

### Tools:

Git, Vim, AWS

## COURSEWORK

Machine Learning  
Deep Learning  
Advance Computer Vision  
Mathematics for MINDS  
Data Structure and Algo.  
Linear Algebra  
Calculus and Probability  
Computer Architecture  
Signal Processing

## ACTIVITIES

Mavericks: The ML Society  
Co-ordinator  
IIIT-G

08.20.2024

## EXPERIENCE

### Delhivery

Associate Data Scientist

Nov 2021 – Aug 2022

Gurugram, IN

- Worked on improving serviceability polygon coverage to 99.9% of shipments utilizing Peta-Byte scale data.

Applied Data Science Intern

Gurugram, IN

- Worked on Computer Vision based applications to optimize truck load and empty trolley utilization at Sorting facilities, improving mAP by 7%.
- Worked on improving capabilities of spell correction module using DL.

### Holosuit Pte. Ltd.

Computer Vision Intern

June 2021 – Nov 2021

Mysore, IN

- Contributed to building scalable Knowledge Graphs based closed domain conversational AI as a QA system
- Worked on Python and Unity based Robotics framework for teaching assistance.

### Spyne.ai

Computer Vision Intern

Aug 2020 - Nov 2020

Gurugram, IN

- Worked on High Resolution background matting model for various e-commerce categories.
- Built Auto Image Tagging and Title generation models for fashion clothing items using Tensorflow, Flask, AWS for scalable deployment.

### SJTech Solutions Pvt. Ltd.

Machine Learning Development Intern

May 2020 - July 2020

Bhopal, IN

- Developed an end-to-end ML system similar to AutoML for tabular data.
- Worked on retail chatbots, as well as GAN based face image generation tools.

## RESEARCH PUBLICATIONS

[1] Harman Singh, Poorva Garg, Mohit Gupta, Kevin Shah, Ashish Goswami, Satyam Kumar Modi, Arnab Kumar Mondal, Dinesh Khandelwal, Parag Singla, Dinesh Garg

**"Image Manipulation via Multi-Hop Instructions - A New Dataset and Weakly-Supervised Neuro-Symbolic Approach" At EMNLP 23-Main**

[link]

## ACHIEVEMENTS

Received TCS Research Fellowship

Kaggle Expert (Rank 420/40,888)  
[Profile Here]

Smart India Hackathon 2020  
National Level Finalist for  
DL based Road Damage  
Detection solution. [Code]

Secured 140th rank out of 10,000+  
participants on Amazon ML  
Challenge on Hackerearth.

Won the Attentive.ai's Image  
Classification Competition hosted  
on Dockship.io. [Code here]

Finalist at National  
Astronomy Olympiad.

## REFERENCES

Prof. Parag Singla  
Professor IIT-Delhi (CSE, HEAD School  
of AI)  
email: parags@cse.iitd.ac.in

Dr. Shovan Barma  
Asst. Professor IIIT-G (Dept. of  
Electronics and Communication)  
email: shovan.barma@gmail.com

## PROJECTS

### **Leukemia Detection from Blood Cell Images**

Leukimia detection have very imbalanced dataset, overcame this by using Cross-validation and penalizing dominant class.

Trained Efficient B3 with custom standardization and LR schedule to obtain 94.5 f1 score on TPUs.

### **Multi-Modal Book cover classification**

This was part of my final assignment for COL775@IIT-Delhi. Given image, title pairs we had to correctly classify the book genre. Using a fine-tuned CLIP for multi-modal representation, I was able to rank #1 in a class of 120 students

### **Image Captioning App**

Incorporating CNNs and Transformers to create a lightweight Image Captioning model to work on Android using Flutter and Tensorflow.

### **Resilience Analysis of GANs and introduction of approximations**

Analysed the error resilience shown by GANs (DCGANs, WGANs, and CycleGANs)so as to employ approximations in them

### **Hand Written Text Recognition**

2nd Prize, Rethink UX's text Recognition Challenge, 2020  
Used OpenCV pipeline to segment lines from a page.

Utilised an Encoder(CNN)-Decoder(Transformer) architecture to achieve 94% acc.

### **Task Automation using Gesture Recognition**

Manually collected data using OpenCV and webcam (1000/  
category)

Trained CNN model with attention to attain an accuracy of over 99%.  
Several Repetitive tasks like voice assistant(self-made), Chrome, Vol Up/Down etc.were mapped to the categories

### **Friday**

A voice assistant made from scratch to perform several day-to-day tasks, later integrated with the Gesture Recognition Project