

## PROJECTS

### Object Detection using Vision Transformers / June 2021 - Ongoing

**Dr. Mayank Vatsa and Dr. Richa Singh**

Study and Analyze different transformer-based object detection models like DETR, Deformable-DETR, Pyramid Vision Transformer. Study the robustness of these models by evaluating them against different Adversarial Attacks

### Mark It - Studying the Effect of Watermarking on Images / April 2021 - June 2021

**Dr. Mayank Vatsa**

Working with different watermarking techniques, seeing how they effect tasks like image classification. Drawing a comparison between these techniques and adversarial attacks

### Comparative Study Between Different Architectures for Image Captioning / January 2021 - March 2021

**Dr. Mayank Vatsa**

Working with different deep-learning based image-captioning architectures. Performing a comparative analysis on these architectures

### Solving Classical Problems Using Bi-directional Searches / October 2020 - December 2020

**Dr. Deepak Mishra**

Using several bi-directional searches to solve problems like sliding puzzle, pancake problem, and tower of Hanoi. Paper used as reference: A Unifying View on Individual Bounds and Heuristic Inaccuracies in Bidirectional Search

## SKILLS

**Languages:** Python, C++, C

**Concepts:** Machine Learning (ML), Deep Learning (DL), Computer Vision (CV), Dependable AI, Natural Language Processing (NLP), Data Analysis, Data Science

**Tools:** PyTorch, OpenCV, NumPy, Pandas, Scikit-Learn, Docker, Matplotlib, PyGame, NLTK, Dash by Plotly

## EDUCATION

**Master of Technology, Artificial Intelligence - 7.91/10.00**, IIT Jodhpur, Ongoing

**Bachelor of Technology, Computer Science and Engineering - 8.78/10.00**, Dr. Akhilesh Das Gupta Institute of Technology and Management (formerly NIEC), 2019

## OTHER PROJECTS

- Implemented an **Automated Market Opening Scheduler** using different **heuristic-based approaches** like - Hill Climbing with random restarts and Modified Best First Search
- Semantic Segmentation** on Cityscapes dataset using CNN-based architectures
- Implemented a **Sudoku Solver** using **A\* Search Algorithm**. Used PyGame to design the UI.
- Several paper implementations including - **Replicate, Walk, and Stop on Syntax: An Effective Neural Network Model for Aspect-Level Sentiment Classification (AAAI 2020)** by Zheng, Y., Zhang, R., Mensah, S., Mao, Y; **ColorFool: Semantic Adversarial Colorization (CVPR 2020)** by Ali Shahin Shamsabadi, Ricardo Sanchez-Matilla, Andrea Cavallaro

## INTERSHIPS

**Data Analyst, Smart Cube / March 2019 - May 2019**

Web scraping data off of Educational websites; Making use of Xpath and Regex to accumulate data; Managing the database using DataGrip

**Data Analyst & Content Writer, AP Janmabhoomi (Government of Andhra Pradesh) / July 2018 - September 2018**

Handling database of over 60k schools, analyzing and visualizing the same; Communicating with donors to report the progress; Creating content for social media platforms, newsletters and website

## EXTRA-CURRICULAR

- Teaching Assistant @IITJ for Design and Analysis of Algorithms
- Served as Editor and Designer for Qubit (Departmental Magazine @ADGITM)
- Served as head of the Cultural Society, Awaaz @ADGITM
- Actively participated and organized MUNs and Debates.