

# PLACEMENT PROJECTS

Lets see my projects. All projects available [here](#) .

We have two sections :

- Artificial Intelligence Projects
- Computer Science and Engineering Projects

## *Artificial Intelligence*

### 1. Object Detection with Voice feedback

- implemented yolov3 algorithm and used pretrained model weights to detect multiple objects in one image.
- used the google text to speech API to generate audio file describing the objects in the image.
- The model identified objects with a confidence of about 99%.

### 2. Chatbot

- Implemented a retrieval-based chat-bot (named Haritha).
- This Chatbot is specifically designed to mimic the chatbots of Food delivery platforms. It uses Natural Language Processing and Deep learning.
- The chatbot achieved an accuracy of 98% in generating appropriate responses.

### 3. MNIST Image Classifier

- Implemented each of the components of a convolutional neural network (CNN) from scratch, including backpropagation.
- Using this network built an image classifier trained on MNIST dataset for digit classification and attained accuracy of 88%.

### 4. Steganalysis

- Implemented deep learning model for Alaska2 dataset's JPEG Image Steganalysis to detect JUNIWARD-encoded messages in JPEG images.
- Using less than 20% of the data for training got an accuracy of 0.6 for trained model.

## 5. [Hackathons](#)

- Achieved Score: 0.87337 of Kaggle challenge named "Is the driver at fault?".
- Achieved Score: 0.99828 of Kaggle challenge named "Digit Recognizer".

## 6. [Analyzing Laptop Specifications](#)

- A data-driven analysis of laptop specifications was conducted, uncovering valuable insights and market trends that facilitate informed decision-making for laptop purchases and market analysis.

## 7. [Tic Tac Toe](#)

- Implemented a Q-learning algorithm to train an agent to play the game of Tic-Tac-Toe against various opponents.
- Implemented the Monte Carlo Tree Search algorithm for playing Tic-Tac-Toe and evaluated its performance against random and safe opponents.

# ***Computer Science and Engineering***

## **1. Question paper generator**

- Implemented automated system for generating unique exam papers, optimizing efficiency and customization through question bank and parameter substitution techniques.
- Streamlined processes of question selection, paper creation, and customization, resulting in improved productivity

## **2. Development and Management of Database**

- Designed a flexible and efficient relational database from scratch for a scientific research paper inquiry website with the referential integrity maintained.
- Developed informative ER diagrams, efficient relational table schema and retrieved information with complex queries.

## **3. DSA Projects**

used Data structures and Algorithms to implement many real world applications:

- RISC-V Disassembler
- Sorting Visualizer
- File Zipper
- Sudoku solver

## **4. OS Multithreading**

- The program utilizes multithreading to parallelize the task of finding perfect numbers, improving efficiency and leveraging concurrent execution.

## **5. Digital Fabrication of Navy Ship**

- Designed an 3D model of Destroyer Navy ship using computer-aided design in Solid Edge platform.