Akshat Kaushal

B.E. Computer Science at T.I.E.T, Patiala

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EXPERIENCE

IDEAL AI | Computer Vision Intern

Automatic Number Plate Recognition
10/2020 - 11/2020 || ANPR Demo (link)
- **End to End pipeline** for data entry at industrial complexes. **Increased security** by verifying number plates with database. Trained on **40,000 images on an AWS server**. Also classifies vehicle into **10 classes**.
- **Internal pipeline of Hrnet for plate segmentation** and **LPRnet/OCR** for character recognition were used.

Real Time Inventory Tracker
08/2020 - 10/2020 || Demo Video (link)
- A software for gas industry to track loading/unloading and inventorying cylinders. Developed an object detection model and a custom object counting algorithm.
- Objects were logged under the record of the truck from which it was unloaded/loaded using license plate recognition and the loaded/unloaded count was then used for real time inventory management.

End to End Multiclass Image Classification Pipeline
05/2020 - 07/2020
- Made a flexible internal **Image Classification CNN pipeline** with added augmentations techniques and visualizations support, without sacrificing computational power.Technologies used were **pytorch, wandb and resnet18** for backbone.

PERSONAL PROJECTS

BACKGROUND REMOVAL FOR VIDEO CALLS
10/2020 - 11/2020 || Background replacement Demo(link)
- Developed a light weight real-time system for background replacement from scratch. Aims achieved were a smoother edged output with better and 30percent faster annotation system with various post processing steps including segfix and CRF.
- Can be extended to **multi-person** as well as other exercises can be auto detected.

EXERCISE COUNT, POSE ESTIMATION
07/2020 - 09/2020 || Count PushUps, Situps, ChinUps (link)
- **HRnet** pre-trained on **COCO dataset** for pose estimation. PushUps, Situps, Squats, ChinUps count can be done by calculating angles and direction between joints.
- Can be extended to **multi-person** as well as other exercises can be auto detected.

POSTREADY DESIGNER
04/2020 - 05/2020 || Monopoly-Logue (link)
- Web-app which used templates of poster and put up content dynamically. Increased the speed of graphic designer by 6 times in designing certificates and posters.
- **PHP GD library** with **object oriented approach** was used for easy handling and additions of new templates to the website.

EDUCATION

THAPAR UNIVERSITY, PUNJAB
Bachelor of Engineering in Computer Science
Expected June,2022
Cum. GPA: 9.29 / 10.0

AVMD SCHOOL, AGRA
12th CBSE
04/2016 - 03/2018,
92.6 percent

SKILLS

Data Structures and Algorithms
Computer Vision
Machine Learning
Full Stack Web Development
Graphic and Video Designing

PROGRAMMING
C/C++ • Python • PHP • SQL
WEB
PHP •Django • HTML • CSS • JS
TOOLS AND FRAMEWORKS
Pytorch • AWS • Git • Apache • MySql

ACHIEVEMENTS

TCS CODEVITA, 2020
963 rank out of 185K participants
SCHOLARSHIP (2018- PRESENT)
Scholarship amount of Rs 1 lakh per annum based on merit
2ND AT ROBO-SOCCER (2019)
Made a R-F controlled robot to play soccer on a mini field in a college fest
PLAN IT OUT (2019)
Won 2nd prize at event organised by econ club, TIET, based on product and startup pitching to an investor.

SOCIETIES

- General Secretary at Econ Club, TIET
- Member at Creative Computing Society (CCS) (2018-2019)
- Mentor at FROSH, TIET (2019 - 2020)
- Member at IETE and event planner at ELEMENTOS (2019)