

Akshat Kaushal

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INTERNSHIPS

THAPAR UNIVERSITY | DATA SCIENCE INTERN

Brain Tumour Detection on 3D MRI voxels

03/2021 - ongoing

- Developing 3-D deep learning pipeline and architecture for detection of different tumour regions in **4D voxels** on **brats20 dataset**. Challenge should be completed with high accuracy to prevent emergencies. For training we are using **NVIDIA DGX** system remotely.

IDEAL AI | COMPUTER VISION INTERN

Automatic Number Plate Recognition

10/2020 - 12/2020 || [Github code \(link\)](#) || [Deployed 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 || [Github Code \(link\)](#)

- 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.

PERSONAL PROJECTS

BACKGROUND REMOVAL FOR VIDEO CALLS

10/2020 - 11/2020 || [Background replacement Demo\(link\)](#)

- Developed a model using **HrNet for pseudo labelling** and better annotation system.
- Aims achieved were a smoother edged output with better and **30percent faster annotation** system with various post processing steps including **segfix** and **CRF**.

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 repetitions 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.

EMPLOYEE/ EMPLOYER MATCHMAKER

07/2020 - 11/2020 || [Matchmaker\(link\)](#)

- We developed an algorithm to match job-seekers and job providers on different criteria and considering needs of both sides.
- The web app would be useful in campus placements and does not need the applicants to apply again and again.

EDUCATION

THAPAR UNIVERSITY, PUNJAB

BACHELOR OF ENGINEERING IN
COMPUTER SCIENCE

Expected June,2022

Cum. GPA: 9.24 / 10.0

COURSEWORK

Data Structures and Algorithms

Operating Systems

Database Management Systems

Computer Networks

Software Engineering

Object Oriented Programming

Theory Of Computation

Machine Learning

Data Science

SKILLS

PROGRAMMING

C/C++ • Python • SQL • PHP •

WEB

PHP • Django • HTML • CSS • JS

TOOLS AND FRAMEWORKS

Pytorch • AWS • Pyacaret • Tableau

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)

LINKS

Linkedin:// **Akshat Kaushal**

leetcode:// **Akshatkaushal**