

Kumar Devesh

DEEP LEARNING ENTHUSIAST | SECOND YEAR UNDERGRADUATE | COMPUTER SCIENCE

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“The mind is not a vessel to be filled but a fire to be ignited.”

Education

Indian Institute of Technology, Roorkee

B.TECH. IN COMPUTER SCIENCE AND ENGINEERING

- CGPA: 8.71/10

Roorkee, India

2020 - Exp. 2024

Projects

Model Extraction on Video Vision Transformers

CONTRIBUTOR | RESEARCH PROJECT FOR INTER IIT TECH MEET 10.0

- Our team of eight developed an efficient strategy to extract the video-based models in the black box and grey box setting
- We extracted Video Swin Transformer and MoviNet trained on the Kinetics datasets to obtain competitive results in the novel task
- Used conditional video generator and adversarial crafting along with knowledge distillation based techniques
- Won the gold medal in the High Prep event amongst 22 IITs across India
- Report can be accessed [here](#), code implementation can be found [here](#)

PAPERS WE READ

CONTRIBUTOR | GITHUB REPOSITORY

- This is an open source repository maintained by Vision And Language Group containing summaries and analysis of recently published research papers. [\[GitHub Link\]](#)
- Contributed to summaries from recent Deep Learning Conferences.

Password generation using GAN based models

CONTRIBUTOR | ONGOING RESEARCH PROJECT AT VISION AND LANGUAGE GROUP

- [\[GitHub Link\]](#)
- Developing a GAN based model for plaintext password cryptanalysis and further to develop safer password creation policies

U-Net Semantic Segmentation Pytorch implementation

OPEN PROJECT | VISION AND LANGUAGE GROUP

- Implemented **U-Net** for semantic segmentation of human faces the helen* dataset
- Implementation link: [U-Net implementation](#).

Pytorch implementation of CVPR 2020 paper Zero-DCE

SELF LEARNING PROJECT | VISION AND LANGUAGE GROUP

- Implemented **Zero-DCE** for lowlight image enhancement on the lowlight images (LOL) dataset
- Implementation link: [Zero-DCE implementation](#).

Pytorch implementation of CycleGAN model

SELF LEARNING PROJECT | VISION AND LANGUAGE GROUP

- Implemented **CycleGAN** for image to image translation from horse images to zebra images on horses2zebras dataset
- Implementation link: [CycleGAN implementation](#).

Work Experience

ETS Monreal

RESEARCH INTERN

(Remote) Montreal, Canada

April. 2022 - Present

- Working on neural network calibration for reliable predictions in a semantic segmentation task mentored by **Prof. Jose Dolz**.

Affine Analytics

ML INTERN

(Remote) Bangalore, India

January. 2022 - March. 2022

- Worked on dimension measurement of objects using machine vision techniques.
- Developed subpixel processing pipelines for edge detection and dimension measurements.

Achievements

2020 **All India Rank - 339**, Joint Entrance Exam (JEE) Advanced

2020 **All India Rank - 1433**, Joint Entrance Exam (JEE) Mains

Skills

Programming Languages	Python, JAVA, HTML, CSS, JavaScript
Packages	Pytorch, TensorFlow, Keras, Numpy, scikit-learn, opencv
Utilities	Git, nano, Linux Shell

Extracurricular Activity

Vision and Language Group, IIT Roorkee

Roorkee, India

CORE MEMBER

May, 2021 - Present

- Core member of VLG, a student group that promotes **Deep Learning research culture** at IITR by discussing relevant research papers, organizing workshops and working on related projects.[\[Link\]](#)
- Involved in paper discussions, contributing to projects, organizing workshops, etc.