

Sulabh Shrestha

Programming Languages

Python
Matlab
SQL

Libraries

PyTorch
TensorFlow
OpenCV
Numpy
Scikit-learn

Techniques

Semantic Segmentation
Object Detection
Deep Learning
Contrastive Learning
Self-supervised Learning
3D-2D Projection
Correspondence
Region Proposals
Tracking
Keypoints
Image Processing

Graduate Courses

Computer Vision
Autonomous Robotics
Deep Learning
Advance AI
Advance ML
Artificial Intelligence
Machine Learning
Deep Geometry Processing

Leadership

- Mentor and Co-founder at AiDevNepal
- Organized nationwide workshop on AI
- Organized nationwide exhibition on Software and Hardware projects

Languages

English
Nepali
Hindi

Hobbies

Guitar
Puzzles

Contact

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Education

George Mason University

PhD in Computer Science

Advised by: Dr. Jana Košečka

Working in the field of Computer Vision, Self-Supervised Learning and Robotics

Aug 2018 — Present

George Mason University

MS in Computer Science

GPA: 3.78

Aug 2018 — Aug 2022

Experience

George Mason University

Graduate Research Assistant

- Working with Dr. Jana Košečka on computer vision and robotics
- Devised a new method of self-supervised learning for perception model of embodied agents by utilizing temporal and spatial consistency to reduce reliance on annotated data
- Devised a new algorithm to efficiently match class agnostic segmentation regions between views of an environment in linear time
- Working on new methods to utilize multiple views in a scene or videos to increase the performance of perception models for embodied agents

Graduate Teaching Assistant

- Outstanding GTA Award
- Created auto-grader to reduce grading time for a long-running course
- Subjects: Deep Learning, Database, Python, Advanced AI, Autonomous Robotics, SQL

Aug 2018 — Present

Fusemachines Nepal Pvt. Ltd.

Software Engineer

- Matching 3D Bone Models with patient's X-rays
- Communicate and clearly explain the steps in the pipeline to clients
- Supervised By: [Steven J. Rennie](#)

Software Engineer Associate

- Worked on construction and perception for a custom fixed wing drone
- Feasibility and requirements analysis for self-driving cars in Nepal

May 2017 — Jul 2018

Publications

Self-supervised Pre-training for Semantic Segmentation in an Indoor Scene

Sulabh Shrestha, Yimeng Li, Jana Košečka

Under Review at ICRA 2023

Projects

Self-supervised Object Detection

Object detection using self-supervised techniques on Active Vision dataset.

Pytorch, Python

Open Set problem for Object Detection

Analysis of the performance of Object detectors on Novel classes

Tensorflow, OpenCV, Python

Guided Contrastive Learning

Robust similarity learning between images guided by a trained Teacher Model

OpenCV, Python

Distracted Driver Detection using attention maps

Using attention maps to detect regions demonstrating distracted regions without labels

OpenCV, Python