Pravin Nagar

A516, R&D block, IIIT Delhi
Near Govindpuri Metro, Okhla Phase III
New Delhi, Delhi, India - 110020

pravinn@iiitd.ac.in
Phone: +91-7275365698
https://pravin74.github.io/

Research Interests

Video Analysis, Computer Vision, Deep Learning, Machine learning, and Reinforcement Learning.

Education

Indraprastha Institute of Information Technology, Delhi (IIIT-Delhi)
PhD candidate, Computer Science and Engineering, CGPA: 8.14 — 2016–Present
Thesis: Analyzing Day Long Egocentric Videos
Advisor: Dr. Chetan Arora

Indian Institute of Information Technology, Allahabad (IIIT, Allahabad)
M.Tech., Information Technology, CGPA: 8.65 — 2012–2014
Thesis: Human Action Recognition
Advisor: Dr. Anupam Agarwal

Mahakal Institute of Information Technology, Ujjain
B.Tech., Computer Science and Engineering, Percentage: 70 — 2007–2011
Project: Hotel Management website
Advisor: Pradeep Rupalia

Lokmanya Tilak Higher Secondary School, Ujjain
XII, PCM: 83.77 — 2007

Publications

Pravin Nagar, Subhabrata Dutta, Tanmoy Chakraborty, and Chetan Arora. "Self-supervised Recovery of Activity Patterns from Weeks-long Egocentric Photostreams" submitted in AAAI 2022.

Pravin Nagar, Anuj Rathore, C. V. Jawahar, and Chetan Arora. "Generating Personalized Summaries of Day Long Egocentric Videos" under minor revision in PAMI 2020.

Pravin Nagar, Mansi Khemka, and Chetan Arora. "Concept Drift Detection for Multivariate Data Streams and Temporal Segmentation of Daylong Egocentric Videos" *Proceedings of the 28th ACM International Conference on Multimedia (ACMMM). 2020.*

Anuj Rathore*, **Pravin Nagar***, Chetan Arora, and C.V. Jawahar. "Generating 1 Minute Summaries of Day Long Egocentric Videos" *Proceedings of the 27th ACM International Conference on Multimedia (ACMMM). 2019.* (* both authors contributed equally)

Sagar Verma, **Pravin Nagar**, and Chetan Arora. "Making third person techniques recognize first-person actions in egocentric videos" *25th IEEE International Conference on Image Processing (ICIP). 2018.*

Pulkit Kumar, **Pravin Nagar**, Anubha Gupta and Chetan Arora. "U-Segnet: fully convolutional neural network based automated brain tissue segmentation tool" *25th IEEE International Conference on Image Processing (ICIP). 2018.*

Pravin Nagar, Anupam Agrawal. "Geometric invariant model based human action recognition" *9th International Conference on Industrial and Information Systems (ICIIS). 2014.*

Work Experience

PSIT Kanpur, India
Assistant Professor Jul, 2014–Dec, 2015
Taught Artificial Intelligence, Software Project Management and E-Commerce.

Teaching Assistant

CSE507-Database System Implementation	Winter 2016
CSE201-Advance Programming	Monsoon 2016
CSE561-Probabilistic Graphical Models	Winter 2017
CSE543-Machine Learning	Monsoon 2017
CSE561-Probabilistic Graphical Models	Winter 2019
CSE642-Advanced Machine Learning	Monsoon 2019
CSE641-Deep Learning	Winter 2020
CSE562-Advanced Computer Vision	Monsoon 2020

Positions Of Responsibility

Participated and Member of organizing committee for 'Intelligent Interactive Technologies and Multimedia (IITM)'. Mar, 2013

System Administrator, CVML lab, IIIT-Delhi Aug, 2018 - Present

Research Projects

Realtime face recognition using Deep learning.
Adviser: Dr. Chetan Arora Jul, 2017 - Dec, 2017
We use a Deep Learning based architecture for face detection, and then small inception-based architecture is proposed for real-time face recognition. For training, we have collected the data of seven-person. Our model detects and recognizes faces in real-time on each frame of video.

Smart Messenger.
Advisor: Dr. Saket Anand Aug, 2016 - Jan, 2017
In this project, we propose a smart messenger to classify emotions based on short text messages, thus setting the background color of the message to the color assigned to the particular emotion. The state-of-the-art accuracy on ISEAR dataset for five emotions classes is 64.47% from Microsoft research. We defeated their accuracy by two different deep learning models and got 82% accuracy.

Geometric Invariant Human Action Recognition.
Advisor: Dr. Anupam Agarwal Jun, 2013 - May, 2014
We proposed a geometric invariant like rotation, scaling and transformation invariant action recognition system in this work. We have used R-transform, which is the extension of radon transform for feature extraction. We use Principal Component Analysis (PCA) and Linear Discriminant Analysis (LDA). We have reported 87% accuracy on the Weizmann dataset comprises 90 video sequences of 10 action classes.

Face recognition using PCA, LDA, ANN, and RBFNN.
Advisor: Dr. Sudip Sanyal Aug, 2013 - Jan, 2013
We have used various naive methods to recognize faces and compare them. We have used Principal Component Analysis (PCA), Linear Discriminant Analysis (LDA), Artificial Neural Network (ANN), and Radial Basis Function Neural Network.

Skills

Programming Languages
Python, Java, C, C++.
Tools and Technologies
PyTorch, Tensorflow, Matlab, Caffe, OpenCV, Pandas, SciPy.

References

Dr. Chetan Arora
Associate Professor, IIT Delhi, India
Computer Vision
chetan@iitd.ac.in, +91-11-26591279

Dr. C. V. Jawahar
Professor, IIIT Hyderabad, India
Computer Vision
jawahar@iiit.ac.in, +91-40-66531148