Pravin Nagar

A516, R&D block, IIIT-Delhi
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Research Interests

Computer Vision, Deep Learning, Video Analysis, and Egocentric lifelogs Analysis.

Education

IIIT-Delhi, India
PhD candidate, Computer Science and Engineering, CGPA: 8.14 — 2016–Present
Visvesvaraya Ph.D. Fellow (2016-2020)
Thesis: Analysing (Weeks) Long Egocentric Lifelogs
Advisor: Dr. Chetan Arora

IIIT-Allahabad, India
M.Tech., Information Technology, CGPA: 8.65 — 2012–2014
Thesis: Human Action Recognition
Advisor: Dr. Anupam Agarwal

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

Publications

Pravin Nagar, Tanmoy Chakraborty, and Chetan Arora. "Self-supervised Recovery of Activity Patterns from Weeks-long Egocentric Photostreams" in preparation.

Pravin Nagar, Anuj Rathore, C. V. Jawahar, and Chetan Arora. "Generating Personalized Summaries of Day Long Egocentric Videos" *IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI), 2021.* (Impact Factor: 16.39)

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

IIT Delhi, India
Junior Research Fellow — Feb, 2021–Jan, 2022
Research Project: Learning from Egocentric Videos
PI: Dr. Chetan Arora

PSIT Kanpur, India
Assistant Professor — Jul, 2014–Dec, 2015
Subjects: Artificial Intelligence, DBMS, and Software Engineering

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

Reviewed Journals: Pattern Recognition and IETE Journal of Research — Jan, 2016-Jan, 2022
Reviewed Conferences: ACMMM, ICIP, and ICME

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

Real-Time Face Recognition Using Deep Learning
Adviser: Dr. Chetan Arora — Jul, 2017 - Dec, 2017
In this project, we use a pre-trained deep network for face detection, and then a small multi-resolution network (inspired by the inception network) is proposed for real-time face recognition. For training, we have collected the data of seven-person. Our model robustly detects and recognizes faces in real-time for each frame of video.

Smart Messenger
Advisor: Dr. Saket Anand — Aug, 2016 - Jan, 2017
We propose a smart messenger to classify emotions based on short text messages. We use color coding for the messages to depict the emotion being conveyed in the message. Microsoft research demonstrates state-of-the-art performance (64.47% accuracy) on the ISEAR dataset for five emotions classes. The proposed deep learning model demonstrates significant improvement (82% accuracy) with respect to the state-of-the-art.

Skills

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

References

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Dr. C. V. Jawahar
Professor, IIIT Hyderabad, India
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