

Pravin Nagar

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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 <i>Assistant Professor</i> Taught Artificial Intelligence, Software Project Management and E-Commerce.	Jul, 2014–Dec, 2015
TEACHING ASSISTANT	CSE507-Database System Implementation CSE201-Advance Programming CSE561-Probabilistic Graphical Models CSE543-Machine Learning CSE561-Probabilistic Graphical Models CSE642-Advanced Machine Learning CSE641-Deep Learning CSE562-Advanced Computer Vision	Winter 2016 Monsoon 2016 Winter 2017 Monsoon 2017 Winter 2019 Monsoon 2019 Winter 2020 Monsoon 2020
POSITIONS OF RESPONSIBILITY	Participated and Member of organizing committee for ‘Intelligent Interactive Technologies and Multimedia (IITM)’. System Administrator, CVML lab, IIIT-Delhi	Mar, 2013 Aug, 2018 - Present
RESEARCH PROJECTS	Realtime face recognition using Deep learning. <i>Advisor: Dr. Chetan Arora</i> We use a Deep Learning based architecture for face detection and then a small inception based archicture is proposed for real time face recognition. For training we have collected the data of seven person. Our model detects and recognizes face on real time on each frame of video. Smart Messenger. <i>Advisor: Dr. Saket Anand</i> In this work we propose a smart messenger to classify emotions on the basis of short text messages, thus setting 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 defeat their accuracy by two differnent deep learning models and got 82% accuracy. Geometric Invariant Human Action Recognition. <i>Advisor: Dr. Anupam Agarwal</i> Proposed a geometric invariant like rotation, scaling and transformation invariant action recognition system. 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 Weizmann dataset comprises 90 video sequences of 10 action classes. Face recognition using PCA, LDA, ANN, and RBFNN. <i>Advisor: Dr. Sudip Sanjal</i> We have used various naive methods to recognise faces and campare them. We have used Principal Component Analysis(PCA), Linear Discriminant Analysis(LDA), Artificial Neural Network(ANN) and Radial Basis Function Neural Network.	Jul, 2017 - Dec, 2017 Aug, 2016 - Jan, 2017 Jun, 2013 - May, 2014 Aug, 2013 - Jan, 2013
SKILLS	Programming Languages Python, Java, C, C++. Tools and Technologies PyTorch, Tensorflow, Matlab, Caffe, OpenCV, Pandas, SciPy, L ^A T _E X.	
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