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
PhD, Computer Science and Engineering, January 2016 - Present, **CGPA: 8.14**.
Thesis: Analyzing Day Long Egocentric Videos
Advisor: Dr. Chetan Arora

Indian Institute of Information Technology, Allahabad
M.Tech., Information Technology, 2014, **CGPA: 8.65**.
Thesis: Human Action Recognition
Advisor: Prof Anupam Agarwal

Mahakal Institute of Information Technology, Ujjain
B.Tech., Computer Science and Engineering, 2011, **Percentage: 70**.
Thesis: Hotel Management website
Advisor: Prof. Pradeep Rupalia

Publications

Pravin Nagar, Anuj Rathore, C. V. Jawahar, and Chetan Arora. "Generating Personalized Summaries of Day Long Egocentric Videos" under second major 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" Accepted in *ACM International Conference on Multimedia, 2020*.

Anuj Rathore*, **Pravin Nagar***, Chetan Arora, and C.V. Jawahar. "Generating One Minute Summaries of Day Long Egocentric Videos" Accepted in *ACM International Conference on Multimedia, 2019*. (* both authors contributed equally)

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

Pulkit Kumar, **Pravin Nagar**, Anubha Gupta and Chetan Arora. "U-SEGNET: Fully convolutional neural network based automated brain tissue segmentation tool" Accepted in *International Conference on Image Processing, 2018*.

Pravin Nagar, Anupam Agrawal. "Geometric invariant model based human action recognition" Accepted in *International Conference on Industrial and Information Systems, 2014*.

Work Experience

PSIT Kanpur, India
Assistant Professor **July, 14 - December, 15**
Taught Artificial Intelligence, Software Project Management and E-Commerce.

Teaching Experience

Teaching Assistant

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

Positions Of Responsibility

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

System Administrator, CVML lab, IIITD **August, 2018 - Present**

Research Projects

Realtime face recognition using Deep learning.
Adviser: Dr. Chetan Arora **July,17 - December,17**
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.
Advisor: Dr. Saket Anand **August,16 - January,17**
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 differenct deep learning models and got 82% accuracy.

Geometric Invariant Human Action Recognition.
Advisor: Dr. Anupam Agarwal **June,13 - May,14**
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.
Advisor: Dr. Sudip Sanyal **August,13 - January,13**
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.

Skills

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

References

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Dr. C. V. Jawahar
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