Anshul Mittal

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EDUCATION

Indian Institute of Technology Delhi, Delhi, India   Jan 2018 – Present

- Masters(MS Research) School of Information Technology
  - CGPA := 9.13 on a scale of 10

Indian Institute of Technology Roorkee, Uttrakhand, India   Jul 2013 – Jun 2017

- Bachelor of Technology: Mojor in Civil Engineering with Minor in Computer Science and Engineering
  - CGPA := 8.5 on a scale of 10.0

Ramjas Public School, Delhi, India

- XII : 93% with Computer Science   Mar 2013
- X : CGPA := 9.6 on a scale of 10.0   Mar 2011

PUBLICATIONS

[1] *Rotation and Script Independent Text Detection from Video Frames using Sub Pixel Mapping*, **Anshul Mittal**, P.P. Roy, R. Balasuramanian, Journal of Visual Communication and Image Representation. (**link**)

[2] *Multi-Oriented Text Detection from Video using Sub-Pixel Mapping*, **Anshul Mittal**, P.P. Roy, R. Balasuramanian, Computer Vision and Information Processing ,(**link**) Feb 2016.

[3] *Data extraction from traffic videos using machine learning approach*, **Anshul Mittal**, M. Gupta, I. Ghosh, Soft Computing for Problem Solving-2017, IIT Bhubaneswar, (**link**) Jan 2018.

[4] *Sub-Scene Target Detection and Recognition using Deep Learning Convolution Neural Networks*, Suresh Merugu, Kamal Jain, **Anshul Mittal** and Balasubramanian Raman, International Conference on Data Science, Machine Learning & Applications Jan 2019.

[5] *A Modified-LSTM Model for Continuous Sign Language Recognition using Leap motion*, **Anshul Mittal**, Pradeep Kumar, Partha Pratim Roy, Raman Balasubramanian and Bidyut B. Chaudhuri, IEEE Sensors Journal Apr 2019.

RESEARCH PROJECTS

Indian Institute of Technology Delhi

- Extreme classification - supervisor: **Dr. Manik Varma** and **Dr. Sumeet Agrawal**
  - Developed first scalable (upto 20M) as well as accurate deep learning algorithm for the extreme multi-label classification.   Jan 2018 – present

Indian Institute of Technology Roorkee

- Computer Vision Lab - supervisor: **Dr. P. P. Roy** and **Dr. R. Balasubramanian**
  - Recognition of sign language for differently able.   Jun 2016 – Oct 2016
    - A novel 4 gated LSTM was developed for real time sentence translation and segmentation.
    - A accuracy for 89.6% was achieved.
  - Word recognition using lexicon mapping   Jan 2016 – May 2016
    - A moving window CNN-LSTM algorithm was developed for recognition using dictionary.
    - Accuracy of 94.3% and 91.2% was achieved in RIMES and IAM dataset respectively.
  - Rotation and script independent text detection from video frames using sub pixel mapping   Dec 2015 – Feb 2016
    - A robust multi-script text recognition algorithm was developed with the accuracy of 94.1%.
    - Simultaneous 4 scripts were recognised and translated.

- Optimisation Lab - supervisor: **Dr. R. Chowdhury**
  - Urban area road network development using Genetic Algorithm.   Jan 2016 – Apr 2016
    - Using NSGA-III and NEAT algorithm an self optimising road network system was developed.
    - Algorithm improved the efficiency of IIT-Roorkee road networks and increased economic profits by net 15%.
  - Assembly sequence optimization using Genetic Algorithm.   Jan 2017 – Apr 2017
    - Using mutated connected component we optimized assembly for parallel workstations.

- Satellite Images and Remote Sensing - supervisor: **Dr. R. Balasubramanian** and **Dr. P. P. Roy**
  - Sub-Scene Target Detection and Recognition using Deep Learning Convolution Neural Networks.   Jun 2015 – Oct 2016
    - First of it's kind, Differentiating further in 13 classes of 5 major land use category.
    - Accuracy of 89.6% was achieved using 2 pass differential CNN-LSTM.

RESEARCH INTERNSHIPS

Indian Institute of Technology Madras

- Intelligent Transportation System - supervisor: **Dr. G. Ramadurai** and **Dr. I. Ghosh** May 2015 – Jun 2015
  - Vehicle Identification and counting from video.
    - Vehicle recognition software was developed for Indian traffic condition using dense CNN.
    - Software developed was used for calculating road parameters.(Link to the video)

Indraprastha Institute of Information Technology Delhi

- Infosys Center for Artificial Intelligence - supervisor: **Dr. C. Arora** May 2016 – Jul 2016
  - Recognizing First Person Actions from Egocentric Videos using LSTM Networks.
    - A novel convolution memory LSTM was developed for action recognition in video frames.
    - Accuracy of 92.5% was achieved in the UCF-101 dataset.

WORK EXPERIENCE

Consultant I, Exl Analytics Jul 2017 –Dec 2017

COMPUTER SKILLS

PROGRAMING LANGUAGES: C, C#, C++, PYTHON, PHP, JavaScript, R, LUA
TOOLS AND TECHNOLOGIES: Beagle Board-xm, Raspberry pi, LaTeX, SQL
LIBRARIES: Theano, CUDDA, CAFFE, OpenCV, Tensor Flow, PyTorch

EXTRA-CURRICULAR ACTIVITIES

- **Students Innovation Club** (SIC), IIT Roorkee
  - Convener, student body of SIC. Jul 2015 – Apr 2016
- **Conducted event called Femme Chevalier for women's safety**, SIC, IIT Roorkee, India. Oct 2014
- **Delivered a presentation on the awareness of rising pollution**, Project Citizen, India Jul 2009