

Mansi Agarwal

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Education

Delhi Technological University

Bachelor of Technology in Computer Science and Engineering

Delhi, India

2016-2020

- GPA 9.49/10.00, Top 1% percentile
- Featured Coursework: Machine Learning, Artificial Intelligence, Natural Language Processing, Soft Computing

Research Experience

Carnegie Mellon University (CMU)

Remote Research Intern, Advised by Prof. Jack Mostow

USA

2020-Present

- Developed a disengagement predictor using visual cues in RoboTutor, an Intelligent Tutoring System.
- Identified two major types of disengagement and discussed ways to curb them in design time and runtime.
- Paper published in AAAI'21 Student Abstract. ([Paper](#))

Robotics Institute Summer Scholar, Advised by Prof. Jack Mostow

2019-2020

- Proposed a novel semi-supervised method for automating affect detection in RoboTutor via facial cues.
- Paper published in AAAI-EAAI'20. ([Paper](#))
- Attended DJI and UBTECH workshops and won the DJI drone competition.

MIDAS (Multimodal Digital Media Analysis Lab), IIT Delhi

Research Assistant, Advised by Dr. Rajiv Ratn Shah

India

2020-Present

- Leading a team of 14 students to engineer a suspect retrieval database system for Delhi Police, India.
- Designed and develop-(ing) a novel system which can retrieve suspects based on informant's blurry visual memory.
- Demo paper accepted in ACMM'21. ([Paper](#))
- Mentoring sophomores in the field of Deep Learning and Computer Vision.

Research Intern, Advised by Dr. Rajiv Ratn Shah

2018-2020

- Trained a novel multimodal damage identification & severity detection system using attention fusion.
- Paper published in AAAI'20. ([Paper](#))
- Developed a novel emotion detector leveraging online community structure, user history and BERT text embeddings.
- Designed a speaker-independent multi-view encoder-decoder system for speech reconstruction using silent videos.
- Paper published in InterSpeech'19. ([Paper](#))

Indian Institute of Technology (IIT), Delhi

Research Intern, Advised by Dr. Chetan Arora

India

2018-2019

- Developed a deep learning-based breast cancer detection model for scale-invariant detection of malignant masses.
- Supported by All India Institute of Medical Sciences (AIIMS), Delhi.

National University of Singapore

Academic Intern, Mentored by Dr. Tan Wee Kek and Dr. Wei Wang

Singapore

2018

- Hands-on learning program in Data Analytics using Artificial Neural Networks.
- Developed a Sentiment Analyzer using statistical and deep learning algorithms on a four-lakh reviews dataset.
- Batch Topper of the Quiz and Project Presentation.

Delhi Technological University

Project Intern and Undergraduate Teaching Assistant, Advised by Prof. Rajesh Rohilla

India

2018

- Trained a Visual Question Answering model using hierarchical co-attention to fuse visual and linguistic modalities.
- Developed an Android application that utilizes the model to aid visually impaired people.
- TA Responsibilities included preparing assignments, grading, and holding office hours for students.

Publications

Early Prediction of Children's Task Completion in a Tablet Tutor using Visual Features

2021

Bikram Boote*, **Mansi Agarwal***, Jack Mostow

Thirty-Fifth AAAI Conference on Artificial Intelligence (AAAI'21): Student Abstract (Finalist Paper)

[PDF](#)

SeekSuspect : Retrieving Suspects from Criminal Datasets using Visual Memory

Aayush Jain*, Meet Shah*, Suraj Pandey*, **Mansi Agarwal***, Rajiv Ratn Shah, Yifang Yin
2nd ACM International Conference on Multimedia in Asia (ACMM'21): Demo Papers

[PDF](#)

2021

Crisis-DIAS: Towards Multimodal Damage Analysis - Deployment, Challenges, and Assessment

Mansi Agarwal*, Maitree Leekha*, Ramit Sawhney, Rajiv Ratn Shah

Thirty-Fourth AAAI Conference on Artificial Intelligence (AAAI'20): AI for Social Impact

[DOI](#) · [PDF](#)

2020

Semi-supervised Learning to Perceive Children's Affective States in a Tablet Tutor

Mansi Agarwal, Jack Mostow

Tenth Symposium on Educational Advances in Artificial Intelligence (AAAI - EAAI'20)

[DOI](#) · [PDF](#)

2020

MEMIS: Multimodal Emergency Management Information System

Mansi Agarwal*, Maitree Leekha*, Ramit Sawhney, Rajiv Ratn Shah, Rajesh Yadav, Dinesh Vishwakarma

42nd European Conference on Information Retrieval (ECIR'20)

[DOI](#) · [PDF](#)

2020

Hush-Hush Speak: Speech Reconstruction Using Silent Videos

Shashwat Uttam*, Yaman Kumar*, Dhruva Sahrawat*, **Mansi Agarwal**, Rajiv Ratn Shah, Debanjan Mahata

The 20th Annual Conference of the International Speech Communication Association (InterSpeech'19)

[DOI](#) · [PDF](#)

2019

Video Summarization Using Global Attention With Memory Network and LSTM

Dhruva Sahrawat*, Mohit Agarwal*, Sanchit Sinha*, Aditya Adhikary*, **Mansi Agarwal**, Rajiv Ratn Shah

The 5th IEEE International Conference on Multimedia Big Data (BigMM'19)

[DOI](#) · [PDF](#)

2019

* indicates equal contribution.

Honors & Achievements

2021	Finalist Student Abstract Paper (AAAI'21) , Top 20 submission out of 500 submissions	Online
2021	Paper Reviewer , AAAI'21: Main Track	Online
2020	Top 1% percentile , Computer Science Department, Delhi Technological University	India
2020	Microsoft Research Travel Grant , For attending and presenting research at AAAI'20	India
2020	ECIR Student Grant , For attending and presenting work at ECIR'20	Portugal
2019	S.N. Bose Scholarship , 50 students selected nationwide (webpage)	India
2019	Robotics Institute Summer Scholar, CMU , 35 students selected worldwide (webpage)	U.S.A
2016	Gold Medalist , For excellent academics throughout schooling	India

Extracurricular Activities

CLIMB, DTU

Student Mentor, Technical Advisor

Delhi India

2019 - Present

- An initiative to create an eco-system for passionate women in technology who inspire each other to excel.
- Held sessions to promote and inculcate research culture into students.
- Supported several sophomore and junior students in their research and academic goals.

Prayogshala in collaboration with Teach for India (TFI)

Student Volunteer

Delhi, India

2016

- Taught the practical aspects of Science to fifty female, underprivileged students of class 6.
- Designed curriculum using electric, magnetic and hydraulic kits for hands-on learning.

Technical Skills

Programming	C, C++, Python
Frameworks/Libraries	Keras, OpenCV, PyTorch, Scikit-learn, Tensorflow
Other	CSS, HTML, Linux, \LaTeX , MS Office programs