Trisha Mittal

Fields Of Interest

Artificial Intelligence, Computer Vision, Natural Language Processing.

Education

2018 - 2020* **Master of Science (MS)**, Computer Science,
University of Maryland, College Park, **CGPA:** 3.85/4.

2013 - 2018 **Bachelor & Master of Technology (B.Tech. & M.Tech.)**, Information Technology,
International Institute of Information Technology, Bangalore, India, **CGPA:** 3.6/4.

Publications

Nov 2018 P. Kamalaruban, R. Devidze, T. Yeo, **T. Mittal**, V. Cevher, A. Singla. "Assisted Inverse Reinforcement Learning." In Learning by Instruction Workshop at NeurIPS'18, 2018.

Sep 2018 Ravi Kiran Sarvadevbhatla, Shiv Surya, **Trisha Mittal** and Venkatesh Babu. "Pictionary-style word-guessing on hand-drawn object sketches: dataset, analysis and deep network models." In IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2018.

Nov 2017 Ravi Kiran Sarvadevbhatla, Shiv Surya, **Trisha Mittal** and Venkatesh Babu. "Game of Sketches: Deep Recurrent Models of Pictionary-style Word Guessing." In Proceedings of the Thirty-Second AAAI Conference on Artificial Intelligence (AAAI-18).

Mar 2016 **Trisha Mittal**, B. Laasya and D. Jayagopi. "A Logo-Based Approach for Recognising Multiple Products on a Shelf." In Proceedings of the SAI Intelligent Systems Conference 2016, London, UK (IntelliSys 2016). This work has been published in Volume 16 of the Lecture Notes in Networks and Systems series - Springer.

Teaching Experience

Spring 2019 **CMSC 250 Discrete Structures**, Course Instructor: Clyde Kruskal,
Led Discussion Sessions for 30 students twice a week throughout the semester. Also held office hours 4 hours every week.

Fall 2018 **CMSC 250 Discrete Structures**, Course Instructor: Jason Filippou,
Led Discussion Sessions for 40 students twice a week throughout the semester. Also held office hours 4 hours every week.

Scholastic Achievements

2017 Selected for The Cornell, Maryland, Max Planck Pre-doctoral Research School (CMMRS) 2017 in "Software Systems, Social Systems, Security and Privacy". It was held in Max Planck Institute for Software Systems, Saarbrücken, Germany from August 8-13, 2017.

2014 In recognition of academic excellence named in Director's Merit List for semester Fall 2013 and Spring 2018 in International Institute of Information Technology, Bangalore.

2009 National Talent Search Examination (NTSE) scholarship awarded to 1000 students across India by National Council of Education Research and Training (NCERT), India after a 3-tier examination and interview process.

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Research Projects

Jan 2019* **Perceiving Human Emotions from Facial Features and Human Gait**, *(Independent Research Project Spring'19 Semester)* ***Prof. Dinesh Manocha****, UMD, College Park*.
Following psychology literature looking into incorporate multiple human cues such as an individual's gait, facial expressions and body posture to perceive human emotions.

Oct 2018 - Jan 2019 **Visual Debugger for PostgreSQL**, *(Semester Project for course Interactive Data Analytics for Fall 2018 semester)* ***Prof. Leilani Battle****, UMD, College Park*.
Looked into developing a visual debugger for the ease of debugging recursive and long SQL queries with the help of various visual elements like Query Node Graphs and also enabled provenance. This work has been submitted to a conference and is under review.

Mar - May 2018 **Teaching IRL Agents**, *(Visiting Research Fellow)* ***Machine Teaching Group, The Max Planck Institute For Software Systems (MPI-SWS), Saarbrucken, Germany***.
Worked under Prof. Adish Singla in exploring research problems at the intersection of machine teaching and inverse reinforcement learning. The was presented at Leaning By Instruction Workshop at NeurIPS'18, 2018.

Jul 2017 - May 2018 **Training an RL Agent to Draw**, *In collaboration with* ***Video Analytics Laboratory, Indian Institute of Science, Bangalore***.
For a year long research thesis as a part of the curriculum at IIIT-B, worked under **Prof. Dinesh J** and **Prof Venkatesh Babu** to look at the possibility of training an RL agent to be able to draw using multiple critics as in the Actor-Critic setup.

Aug 2017 - Dec 2017 **Modeling User Engagement and Disengagement metrics in Educational Videos**, *(Semester Project)* ***VideoKen***.
Semester project carried out with **VideoKen**, a powerful video based social learning platform under the guidance of **Prof. Manish Gupta**. Work involved modeling the disengagement patterns in users and proposing appropriate interventions.

May 2016 - May 2017 **Game of Sketches: A Deep Neural Model of Word Guessing for Pictionary**, *(Intern)* ***Video Analytics Laboratory, Indian Institute of Science, Bangalore***.
Worked on analyzing the performance of humans and machine-trained classifiers specifically in sketch recognition tasks. The next part of the project was to come up with computational models that mimic how humans play Pictionary. The work has been accepted in AAAI-18.

May - Aug 2015 **Multiple Instance Detection**, ***Multimodal Perception Laboratory****, IIIT-Bangalore*.
Developed an algorithm (using OpenCV Library) for detection of Multiple Products on a shelf specific to the Retail Sector as a part of three-month long summer internship under **Prof. Dinesh Babu Jayagopi**. This work is published in SAI Intelligent Systems Conference 2016.

Leadership Roles and Extra-Curricular Activities

2015 Founding Editor of the Quaterly College Magazine '8 Bit - A Byte of IIIT B'.

2014 Member, SPIC MACAY-Organising Committee, IIIT Bangalore under the **SPIC MACAY Bengaluru Chapter**.

2010 Completed 4 year training in Hindustani classical music and cleared upto the fourth year examination from **Prayag Sangeet Samiti, Allahabad**, India which is equivalent to a senior diploma.

Relevant Coursework

Graudate Courses Computational Linguistics, Interactive Data Analytics, Numerical Optimization, Robotics

Undergraudate Courses Computer Graphics, Machine Perception, Machine Learning, Multi-Agent Systems, Big Data Algorithms, Automatic Speech Recognition