Mayank Saxena

(929) 330-4012
mayank.saxena@columbia.edu
http://mayank26saxena.github.io/
425 W 121 St New York, NY 10027

Education

Columbia University — New York, NY
Master of Science, Computer Science (Machine Learning Track) **GPA: 3.87/4.0** — Aug 2018 – (Exp) Dec 2019

- **Courses**: Machine Learning, Advanced Computer Vision, Deep Learning, NLP, AI
- **Teaching Assistant**: Visual Databases, Introduction to Databases

Delhi Technological University (Formerly DCE) — New Delhi, India
Bachelor of Technology in Mathematics and Computer Science **GPA: 3.66/4.0** — May 2018

Programming Skills

Languages: Python, C++, C, Java, MATLAB, R **Frameworks**: TensorFlow, Keras, PyTorch, Numpy

Experience

- **Amazon** — New York, NY
  Software Development Engineer — Feb 2020 - Present
- **IBM Thomas J. Watson Research Center** — New York, NY
  AI Graduate Research Intern — Jun 2019 - Aug 2019
  - **Privacy-Preserving Machine Learning**: Developed efficient and scalable unsupervised learning algorithms conducive to the encrypted space, enabling machine learning on private and sensitive industrial data.
  - **Complexity**: Filed a patent for developing and implementing a new data packing technique which led to massive improvements in space and time complexity of clustering algorithms for encrypted data.
- **IBM Research Laboratory** — New Delhi, India
  Data Science Intern — Sep 2017 - Jan 2018
  - **Gender Bias Detection and Analysis**: Detected and analyzed over 10,000 Bollywood movie videos for the existence of gender bias and stereotyping using Computer Vision and NLP techniques.
  - **De-Biasing Text**: Developed techniques for removing bias and writing gender-neutral plots for films through event graph generation and semantic role labeling. My work led to a publication at FAT* 2018.
- **Carnegie Mellon University (Robotics Institute)** — Pittsburgh, PA
  Machine Learning Intern — Jun 2017 - Aug 2017
  - **Behavior Action Prediction Model**: Developed and deployed a prediction model for RoboTutor - an Intelligent Tutor System (ITS), to predict the next course of action of the student in real-time. My work led to a first author accepted publication at AAAI 2018.
  - **User Engagement Improvement**: Deployed the prediction model which enhanced user engagement by 7%.

Projects and Research Experience

- **Spoiler Sensitive Video Summarization | Python**
  Using a reinforcement learning based approach developed an algorithm for generating spoiler sensitive video summaries. Achieved better performance than the state-of-the-art video summarization models for this task.
- **Visual Question Answering System | Python**
  Built an alternating co-attention based deep neural network model for visual question answering using Tensorflow 2.0. Trained the model together on images of multiple datasets to achieve a validation accuracy of 25.4%.
- **Multimodal Analysis of Student Learning | Python, Matlab**
  Worked at the High-Level Vision Lab (Columbia University) on an NSF funded project to analyze and understand the effects of visual, textual and audio data in an educational setting on student's behaviour and learning.