Mayank Saxena

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Education

Columbia University — New York, NY
Master of Science, Computer Science (Machine Learning Track) ***GPA: 3.75/4.0*** — *Aug 2018 – (Exp) Dec 2019*

- **Courses**: Machine Learning, Advanced CV, NLP, Applied ML, Algorithms
- **Teaching Assistant**: Introduction to Databases, Visual 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, Pandas, Android SDK

Experience

- **IBM Research Laboratory** — New Delhi, India
  Data Science Research Intern — *Sep 2017 - Jan 2018*
  - **Gender Bias Detection and Analysis**: Detected and analyzed over 10,000 Bollywood movie videos for 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 labelling. My work led to a publication at FAT* 2018.
- **Carnegie Mellon University** — Pittsburgh, PA
  Machine Learning Research 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%.
- **Cube26** — New Delhi, India
  Software Developer Intern — *Dec 2015 - Mar 2016*
  - **Application**: Developed an Android widget for displaying frequent contacts as a stock application for all Karbonn Android Phones. It is currently being used by more than a million people in India.
  - **Running Time**: Improved previously used algorithm by reducing running time by nearly 10% by using hashmaps, background services and cache.

Projects and Research Experience

- **YouTube Video Like Count Prediction | Python**
  Developed a random forest model to predict the like count of a given YouTube video and achieved 95% accuracy. Some of the tasks involved were collection and cleaning of data, feature engineering, modelling and visualization of the data.
- **Detecting Influential Nodes in a Social Network Graph | Python, R**
  Developed and implemented own algorithm for detecting influential nodes in a Social Network graph. Running time was better than PageRank, Degree centrality and k-core centrality algorithm for smaller and mid sized datasets.
- **Analysis of Student Learning | Python, Matlab**
  Currently working on an NSF funded project in the High-Level Vision Lab at Columbia to analyze and understand the effects of visual, textual data in slides and with speaker actions on student learning.
- **Pedagogical State Detection | Python, Java**
  Using Machine Learning, developed an emotion recognition framework for detecting pedagogically relevant pedagogical state such as confusion, boredom, frustration etc. in real time.