Siddharth **Mittal**

JUNIOR UNDERGRADUATE · COMPUTER SCIENCE AND ENGINEERING

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Education

Indian Institute of Technology Kanpur   *Kanpur, India*
BACHELOR OF TECHNOLOGY, COMPUTER SCIENCE AND ENGINEERING   *2015-2019 (Expected)*
- Cumulative Grade Point Average: **9.35/10.0**

Honors & Awards

2017	**Academic Excellence Award**, For exceptional academic performance for year 2015-16	*IIT Kanpur*
2015	**All India Rank 1510**, Joint Entrance Examination Mains, 1.5 million candidates	*India*
2015	**All India Rank 1988**, Joint Entrance Examination Advanced, 150,000 candidates	*India*
2015	**All India Rank 857**, Kishore Vaigyanik Protsahan Yojana	*India*
2015	**Selected for INSPIRE**, Department of Science and Technology	*India*

Experience

Indian Institute of Science   *Bengaluru, India*
LEAP LAB, PROF. SRIRAM GANAPATHY   github.com/smittal6/leap-scd/   *May-July 2017*
- The goal was to develop a speaker independent, real time speaker change detection system
- Synthetic data set was created from TIMIT corpus
- Different models were proposed which used combinations of features and classifiers
- Experiments were carried out and reasonable accuracy was achieved on test set

Projects

Handwriting Prediction and Synthesis   *Pune*
github.com/smittal6/handwriting-synth   *Dec 17*
- Implemented handwriting synthesis paper by Alex Graves using PyTorch
- Recurrent neural net was used to model the parameters of Gaussian mixture distribution
- For conditioned generation, implemented soft window by convolution with mixture of Gaussians
- This project is a work in progress

Neural Image Captioning   *IIT Kanpur*
COURSE PROJECT, MACHINE LEARNING, PROF. PURUSHOTTAM KAR
github.com/smittal6/keras-captioning   *Aug 17 - Nov 17*
- Implemented model for captioning the images based on Show and Tell paper
- We experimented with using GLOVE embeddings, and learning our own embedding for words
- Trained model on COCO and Flickr8k Datasets, experimented with different architectures

Investigations in anomaly detection   *IIT Kanpur*
UNDERGRADUATE PROJECT, PROF. MEDHA ATRE   *Aug 17 - Nov 17*
- Aim was to detect anomaly based on feed from several surveillance cameras
- Obtained set of tags for a time frame using TensorFlow Object Detection API.
- Pools of tags are represented as vectors using GLOVE embeddings
- Score is calculated based on embeddings to detect anomaly

NachOS   *IIT Kanpur*
COURSE PROJECT, OPERATING SYSTEMS, PROF. MAINAK CHAUDHARY   *Aug 17 - Nov 17*
- Implemented syscalls for Fork, Exit, Exec, Sleep
- Implemented standard Unix process scheduling algorithms - FIFO, Round Robin, Shortest Job First and UNIX scheduling to assess their relative performances
- Implemented page replacement algorithms like Random Page Allocation, FIFO, LRU and LRU Clock

Extracurricular Activity

Counselling Service   *IIT Kanpur*
STUDENT GUIDE   *July 16 - Apr 17*
- Personally helped 5 freshers adjust to the rigours of college life
- Assisted in conducting Orientation for more than 800 incoming students

Programming Club *IIT Kanpur*

Secretary *Apr 16 - Apr 17*

- Assisted in organizing Freshers' Programming Contest in August '16
- Responsible for dissemination of information regarding summer projects offered by Programming Club

Skills

Programming	C/C++, Java, Python, Keras, PyTorch
Web	HTML, CSS (Bootstrap)
Utilities	Git, Vim, Shell Scripting, R, Matlab/Octave, LaTeX

Relevant Courses

Introduction to Programming	Tools for Computing	Linear Algebra & ODE
Abstract Algebra	Discrete Mathematics	Logic for CS
Data Structures and Algorithms	Computer Organization	Theory of Computation
Probability and Statistics (A*)	Operating Systems	Intro to Machine Learning
Intro to Databases*	Game Theory*	Natural Language Processing*
Psychology	Computational Cognitive Science*	Compilers*

* : Course in progress, A* : For outstanding performance