

Siddharth Mittal

THIRD YEAR UNDERGRADUATE · COMPUTER SCIENCE AND ENGINEERING

Indian Institute of Technology (IIT), Kanpur

☎(+91) 7620910325 | ✉sidm@iitk.ac.in | 🏠smittal6.github.io | 📱smittal6

Education

Indian Institute of Technology Kanpur

BACHELOR OF TECHNOLOGY, COMPUTER SCIENCE AND ENGINEERING

- Cumulative Grade Point Average: **9.4/10.0**

Kanpur, India

2015-2019 (Expected)

Honors & Awards

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

IIT Kanpur

India

India

India

India

Experience

Indian Institute of Science

LEAP LAB, PROF. SRIRAM GANAPATHY github.com/smittal6/leap-scd/

- 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

Bengaluru, India

May-July 2017

Projects

Handwriting Prediction and Synthesis

github.com/smittal6/handwriting-synth

- 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

Pune

Dec 17

Neural Image Captioning

COURSE PROJECT, MACHINE LEARNING, PROF. PURUSHOTTAM KAR

github.com/smittal6/keras-captioning

- 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

IIT Kanpur

Aug 17 - Nov 17

Investigations in anomaly detection

UNDERGRADUATE PROJECT, PROF. MEDHA ATRE

- 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

IIT Kanpur

Aug 17 - Nov 17

NachOS

COURSE PROJECT, OPERATING SYSTEMS, PROF. MAINAK CHAUDHARI

- 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

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Skills

Programming C/C++, Java, Python

Frameworks Keras, PyTorch

Web HTML, CSS (Bootstrap)

Utilities Git, Vim, Shell Scripting, R, Matlab/Octave, \LaTeX

Extracurricular Activities

Counselling Service

IIT Kanpur
July 16 - Apr 17

STUDENT GUIDE

- 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
Apr 16 - Apr 17

SECRETARY

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

Relevant Courses

Probability and Statistics (A*)

Data Structures and Algorithms

Machine Learning

Natural Language Processing*

Computational Cognitive Science*

Discrete Mathematics

Theory of Computation

Computer Organization

Intro to Databases*

Game Theory*

Linear Algebra

Psychology

Operating Systems

Compilers*

: Course in progress, A: For outstanding performance