Sanchit **Agrawal**

THIRD YEAR UNDERGRADUATE · INDIAN INSTITUTE OF TECHNOLOGY KANPUR

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Education

Indian Institute of Technology Kanpur   *Kanpur, Uttar Pradesh*

BACHELOR OF SCIENCE IN COMPUTER SCIENCE ENGINEERING   *Jul. 2018 - May 2022 [Expected]*

- Cumulative Performance Index (CPI) - **9.7/10.0**

Sardar Patel Vidyalaya   *Delhi*

CENTRAL BOARD OF SECONDARY EDUCATION, CBSE

- 2018   12th Grade - **98.2%** Score
- 2016   10th Grade - **10.0/10.0** CPI

Honors & Awards

2020	**A* grade in 6 courses**, Awarded to top 2% students based on Academic performance in a course	*IIT Kanpur*
2019	**Academic Excellence Award**, Awarded to top 5% freshmen based on Academic performance	*IIT Kanpur*
2018	**Silver Medal**, 50th International Chemistry Olympiad	*Czech Republic and Slovakia*
2018	**All India Rank 176**, Joint Entrance Examination Advance, 200,000 candidates	*India*
2018	**All India Rank 57**, Joint Entrance Examination Mains, 1,000,000 candidates	*India*
2018	**All India Rank 8**, Vellore Institute of Technology Engineering Entrance Examination, 200,000 candidates	*India*
2017	**Attended OCSC camp in Astronomy**, HBCSE, about 50 students selected from 40,000 applicants	*India*
2016	**All India Rank 97**, Kishore Vaigyanik Protsahan Yojana (KVPY), Indian Institute of Science	*India*
2016	**NTSE Scholar**, National Council Of Educational Research And Training and Government of India	*India*

Internship Projects

Proprietary definition of Global Health & Safety Index   *Bengaluru*

METRIPPING TECHNOLOGIES   *April 2020 - May 2020*

- Using **scrapy, scrapy-splash** and **selenium**; crawled various websites over the internet and extracted data related to COVID-19 statistics, population, air-pollution, and general healthcare from across the globe.
- Using above extracted data, created multiple metrics to quantify the health and safety of a region.
- Performed necessary **back-end** processing to map the metrics of regions to the existing database of cities.
- Created a *modal* to display the various features at the **front-end** representation

Activity Classification and Recommendation   *Bengaluru*

METRIPPING TECHNOLOGIES   *May 2020 - June 2020*

- **Theme Allocation Approach 1:** *cleaned, pre-processed* and *lemmatized* the available text description data and performed **LDA Topic Modelling** on it.
- **Theme Allocation Approach 2:** using existing hierarchical groupings of the data, performed a theme allocation by assigning theme scores to each of the groups.
- **Clustering:** Using **DBSCAN** algorithm, created a program to dynamically cluster activities together at a city level according to their latitude and longitude data.
- **Address extraction:** Created an **Address Parser** to extract text address from the text description of the activity

Coursework

- *Data Structures and Algorithms* *****
- *Discrete Mathematics for Computer Science*
- *Computer Organizations*
- *Logic for Computer Science*
- *Software Development and Operations*
- *Machine Learning by Stanford* ******
- *Neural networks and Deep Learning* ******
- *Improving Deep Neural Networks* ******
- *Fundamentals of Programming* *****
- *Real Analysis and Multivariable Calculus* *****
- *Linear Algebra and Ordinary Differential Equations*
- *Complex Variables*
- *Introduction to Economics*
- *Structuring Machine Learning Projects* ******
- *Convolutional Neural Networks* ******
- *Sequence Models* ******

Received A grade
**Coursera Courses

Technical Skills

Languages (Familiar) Python, C, C++, HTML
Languages (Basic) Matlab, Octave, Bash, CSS, Java, Javascript
Tools MySQL, LaTeX, Verilog, Tensorflow, Scrapy, Selenium, MongoDB, Git, Gensim
Platforms Linux, Windows

Self Projects

- **Created a Path-finding Visualizer Project**
  - Using the **pygame** library, built a python program to find the shortest path between 2 points on a 2-D grid avoiding obstacles.
  - The project helps visualise how the Dijkstra's algorithm actually proceeds using the grid.

- **Designed A Deep Neural Network of Variable Architecture**
  - Developed a Python program to train a deep neural network with visual data input and then classify all test inputs based on the trained network.
  - An implementation of the software trained on about 200 images of cats gave an **80% accuracy** in the testing phase.

- **Developed a Software to implement Commands by identifying Hand Gestures**
  - Built a deep neural network model using Tensorflow to identify numbers from 0 to 5 in sign language.
  - Works in real-time using visual input for Webcam to perform certain operations depending on the sign identified.