JIGYANSU NANDA

ACADEMIC DETAILS

Year	Degree / Board	Institute	GPA / Marks(%)
---	B.Tech in Textile Engineering	Indian Institute of Technology, Delhi	7.29
2016	CHSE Odisha	Naidu +2 Science College	77.33
2014	BSE Odisha	Kalinga Vidyapitha	91.83

SCHOLASTIC ACHIEVEMENTS

- **Codechef rating** : Secured **Global rank 588** in **July Cook-off 2020 Division 2** Codechef programming contest **[2020]**
- **GeeksForGeeks Rank 2 in IITD** : current rank amongst IITD students in problem solving on the GFG coding platform
- **GeeksForGeeks articles** : Published articles on interesting programming questions on geeksforgeeks website. **[2020]**
- **Joint Entrance Examination** : Qualified JEE with a percentile of 99.67 among all the JEE aspirants. **[2017]**

PROJECTS

- **Shortest Path Algorithms Visualizer** : **[May, 2020 - August, 2020]**
  - Created, deployed **web application**, to visualize how **Shortest Path Problem** solving algorithms works in real time.
  - Implemented **Breadth First Search**, **Dijkstra's Algorithm**, **Bellman-Ford Algorithm**, **Floyd-Warshall Algorithm**.
  - The Shortest Path Problem in Graph theory, is a **combinatorial optimization** problem, that requires one to find the **minimum cost path** between a source vertex and a destination vertex. Many applications deal with this problem in real-life scenarios such as GPS-enabled **Google Maps**, **Waze** and **IP-routing** using **Open Shortest Path First (OSPF)** etc.
  - **Visit live web application** : *https://jigyansu-nanda.github.io/Shortest-Path-Algorithms-Visualizer/*
  - **tools used** : ReactJS, JavaScript, HTML, CSS, Bootstrap
- **LFU (Least Frequently Used) Cache Replacement Scheme implementation** : **[December, 2019 - January, 2020]**
  - Implemented LFU cache replacement scheme, that prioritizes cache replacement based on **frequency of item-access**
  - For cache eviction : Item, that is accessed least number of times, gets evicted first. When more than one item from the cache, share the **same minimum frequency of access**, then the item, that is **least recently used** (**LRU** policy), gets evicted. Used **HashMap**, custom made **Doubly Linked List** to ensure that **insertion** of new item into cache block and **replacement** of least frequently accessed item from cache block takes constant time. **(Time Complexity : O(1))**
  - **code on Github**: *https://github.com/Jigyansu-Nanda/LFU-cache-replacement-scheme* **programming language**: Java
- **Simple Autocomplete Feature / Typeahead suggestions (using Trie)** : **[December, 2019 - January, 2020]**
  - Implemented a simple, non-scalable autocomplete feature using **Trie data structure**. The programme suggests all the possible completion suggestions of queries based on user current input and previous history of inputs during the runtime
  - **code on Github**: *https://github.com/Jigyansu-Nanda/Autocomplete-Feature-using-Trie* **programming language**: Java
- **Deciding number of Components in PCA (Principal Component Analysis)** : **[November, 2019 - December, 2019]**
  - Used a **statistical approach** to decide optimal number of components (say, **k**) in Principal Component Analysis, such that if we reduce a ***d*-dimensional (d >>> k) feature space** dataset to ***k*-dimensional feature-space** dataset, we can increase computational efficiency while retaining significant algorithmic accuracy in relatively lesser time than earlier.
  - **source code on Github**: *https://github.com/Jigyansu-Nanda/Number-of-Components-in-PCA*
  - **tools used**: Python, Numpy, Pandas, Matplotlib, Scikit-learn

TECHNICAL SKILLS

- **Programming Languages**: Java, JavaScript, C++, Python; **Domain-specific Languages**: HTML, CSS, SQL
- **JavaScript libraries**: jQuery, ReactJS; **JavaScript frameworks**: Node.js

EXTRA CURRICULAR ACTIVITIES

- **Social Endeavours** : Volunteer at **Indian Road Safety Campaign (IRSC)** : **[January, 2019 - April, 2019]**
  - Organised **Message-to-Masses** campaign successfully inside IIT Delhi campus by creating poster, doing social media promotion, organising teams of volunteers for different time slots of the day, volunteered myself till the end of activity.
  - Represented Indian Road Safety Campaign in **NSS Kaizen - 2019** and **BRCA Orientation - 2019** stalls.
  - Organised **Street-Play Competition** for IRSC by creating posters, creating timeline sequence for different phases of competition and guidelines and contacting different dramatics societies and street play clubs of colleges from Delhi.
  - Volunteered for ground work with IRSC teams of other colleges in Delhi on different traffic squares to create awareness about wearing helmets properly, strapping them and using seatbelt along with the cooperation of **Delhi Traffic Police**.
- **Old Age Home Project** : Volunteer at **National Service Scheme (NSS)**, IIT Delhi : visited different old-age homes in Delhi, interacted with older citizens there, provided them mental and emotional support and organised various fun activities to relieve them off from isolation and depression. Learned a lot from the experiences, they shared with us. **[2018]**
- **Enactus** : Volunteered for **Project Nirmalya**, by visiting different societies in Delhi NCR and creating self-awareness among people and teaching them how to use self-sustainable waste management products **[January, 2019]**

Disclaimer: All the information on this page is entered by student.

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IIT COURSE

Degree	Institute	CGPA
B.Tech in Textile Engineering	Indian Institute of Technology, Delhi	7.29

COURSES DONE

Engineering Mechanics, Engg. Visualization & Comm., Product Realization By Manf., Linear Algebra & Diffe. Equa., Intro. To Computer Science, Intro. To Electrical Engg., Calculus, Electromagnetic Waves&qua.mec., Principles Of Elect. Materials, Digital Electronics

QUALIFYING EXAM

• **Joint Entrance Examination (JEE) Advanced Rank:** 3861 (GE)