

Nakul Jain

Senior Year Undergraduate

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Academic Qualifications

| Year | Degree/Certificate | Institute | CPI/% |
|----------------|--|--|--------|
| 2018 - Present | B.Tech in Computer Science and Engineering | Indian Institute of Technology, Kanpur | 7.3/10 |
| 2018 | CBSE(XII) | Ram Krishna Vidya Mandir, Gwalior | 95.2% |
| 2016 | CBSE(X) | Gwalior Glory High School, Gwalior | 10/10 |

Scholastic Achievements

- Received the **Academic Excellence Award** for exceptional academic performance in 2018-19 at IIT Kanpur
- Secured an All India Rank **175** in **JEE Advanced** 2018 and All India Rank **98** in **JEE Mains** 2018
- Achieved All India Rank of **457** and selected for **Kishore Vaigyanik Protsahan Yojana (KVPY)** fellowship in 2017-18
- Received an **Excellence award** for scoring **100%** in Chemistry in CBSE 12th Board

Work Experience

Qualcomm | Software Development Internship | Team: NR 5G (May'21-Jul'21)

- Objective:** Automate the **MAC Profiling Parser** program and improve the readability of **F3 Error Messages**
- Implemented the **auto downloading feature** of the multiple log packets from **Axiom cloud server** using **Python, xml, json**
- Stored all the log packets with required **CRM Build Ids** in **MongoDB** and learnt to plot graphs using **Bokeh Module**
- Studied the **enum replacement script** and appreciated the working of **clang compiler** and errors it produces on **LTE logs**
- Developed a **user-friendly interface** for structured view of error messages based on **sorted order** of their total count

Demux Academy | Full Stack Developer Internship | Supervisor: Eng. Varun Garg (Apr'20-Jun'20)

- Objective:** Set up **AWS EC2** web server and configure different services through Virtual Hosting and MySQL as DB Host setup
- Developed a **Search Engine Portal** using Node.JS, React, Express, CSS which fetches movies database using **OMDB API**
- Stored** the data in MySQL and **deployed** the application using AWS EC2 Ubuntu image, Elastic IP load balancer
- Virtually hosted through **ApacheV2, Confd Configuration, Version Control, DNS Config** and then on a **Cloud Server**

Key Projects

C to x86 Compiler | Supervisor: Prof Amey Karkare (Jan'21-Apr'21)

- Implemented a mini C compiler having source code **C**, Implementation language **C++**, and Target language **x86 Assembly**
- Performed **Lexical, syntax & symantic analysis** and produced abstract syntax tree in dot script and generated assembly code
- Used 3 Address Code as intermediate language to act as a bridge between high-level source & low-level assembly language

Analysing Databases | Supervisor: Prof Arnab Bhattacharya (Mar'21-Apr'21)

- Analysed relational databases and non-relational databases of different sizes by running them over **4 different queries**
- Compared effects of **varying sizes, relations, indexing, database management systems** by plotting a line graph
- Databases used Sqlite3, MariaDB (SQL) and MongoDB(NoSQL) and Language used **Python**

GemOS | Supervisor: Prof Debadatta Mishra (Aug'20-Nov'20)

- Implemented system calls like **open, read, write, close** and functionalities like **Paging, File System and Message Queues**
- Executed memory management operations with provisions for **mmap, munmap and huge page creation**
- Developed a debugger in OS with functionalities like setting/removing breakpoints, wait/continue, disabling/enabling breakpoints

Tic Tac Toe against Computer | Self Project (Jul'20)

- Developed a software for Tic Tac Toe game by implementing an **intelligent bot** which is based on **Minimax Algorithm**
- Created a user-friendly interface using HTML5, CSS, Javascript to play it online

Authentication Portal | Self Project (Dec'19)

- Created a portal to authenticate a user via **REST-endpoint API-Google OAuth** with email and password
- Developed a web application with Node.js, Express, Passport, and MongoDB to enable user-friendly demos

Technical Skills

Languages: C, C++, Python, Bash, Node.JS, React, Express, Javascript, CSS, HTML5

Tools: Git, Vim, L^AT_EX, Docker, AWS, MongoDB, MySQL, Msc-Generator

Relevant Courses

*Ongoing

| | | | |
|---------------------------|----------------------|--------------------------|-------------------------------|
| Introduction to Computing | Compiler Design | Database Management | Operating Systems |
| Theory of Computation | Software Development | Advanced Algorithm | Data Structure and Algorithms |
| Machine Learning* | Probability | Linear Algebra and ODE's | Discrete Mathematics |

Positions of Responsibility

Manager - Technocruise | Techkriti (Oct'19-Apr'20)

- Built and coordinated team of **20** volunteers for smooth conduction of workshops
- Successfully collaborated with various MNCs including Adobe, Cisco for organising workshops in 28 cities with **4000+** participants

Senior Executive - TOSC | Techkriti (Jul'19-Oct'20)

- Successfully conducted Techkriti Open School Championship(TOSC) exam in various cities with more than 2000 participants