

Nakul Jain

Senior Year Undergraduate

✉ nakuljn@iitk.ac.in | 🌐 nakuljn | 📞 +91 808 561 3396 | 📧 nakuljain20

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 multiple log packets at the same time in **Python** and stored them in **MongoDB**
- Collaborated with teammates to parse the logs using **Omega Parser** and made a dynamic plot using **Bokeh**
- Created an **user-friendly interface** for structured view of error messages generated by running **clang on the LTE logs**
- Brainstormed different ways to reduce the errors in **Enum Replacement Script** code from **50% to 33%**

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**
- Ensured Security** by storing the API key in the backend and retrieving it by making request to the server
- Deployed the Application using AWS EC2 Ubuntu image, Elastic IP load balancer and Virtual Hosting through ApacheV2

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-April'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 involved Sqlite3, MariaDB (SQL) and MongoDB(NoSQL) and Languages 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