ABHINANDAN **DE**

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EDUCATION

Degree	Institute / Board	Year	CGPA / %
B. Tech in Computer Science and Engineering	IIT Kharagpur	2019 - 2023 (Expected)	**9.66 / 10**
All India Senior School Certificate Examination	CBSE	2019	**95.6 %**
All India Secondary School Examination	CBSE	2017	**10 / 10**

SKILLS and EXPERTISE

Languages/ OS : C, C++, Python, UML, MySQL, Java, Javascript, Dart, LaTeX, MIPS, Windows, Ubuntu
Tools : Git, VSCode, Postman, Netlify, Vim
Libraries/Framework/SDK : C++ STL, NumPy, Pandas, Torch, Matplotlib, Scikit, React, Flask, Django, Flutter

AWARDS and ACHIEVEMENTS

- Holding **Department Rank 9** among the B.Tech students of CSE Department **Nov'21**
- Qualified for **Google Code Jam - Round 2** and **Facebook Hacker Cup - Round 2** **Sep'21**
- Acquired a **Rank of 16** in ACM-ICPC Kanpur Regionals 2020 **Aug'21**
- Acquired a **Rank of 76** in ACM-ICPC Gwalior-Pune Regionals 2020 **Aug'21**
- **Changed Department** to Computer Science & Engineering with a CPGA of **9.89** in the first year **Jun'20**
- Acquired rank **835** in JEE Advanced-2019 and rank **1729** in JEE Mains-2019 out of 1.14 million applicants. **Jul'19**
- Awarded the **KVPY Scholarship** in SX-2018 stream by Department of Science and Technology,India. **Mar'19**

PROJECTS

Machine Learning
Term Project | Aut'21
- Developed a **Decision Tree** Classifier and a **K-NN** Classifier from scratch.
- Implemented a **Multi Layer Perceptron** Classifier with the help of **PyTorch** library.
- Used various python libraries such as **NumPy**, **matplotlib**, **Pandas** and **sklearn** to facilitate proper data analysis.

Compiler Design (tinyC)
Term Project | Aut'21
- Designed a compiler to support a subset of C functionalities that translates the source code to x86 assembly code.
- Implemented a **Lexical Analyzer** using Flex, a **Parser** using Bison, and a Machine Independent **Code Generator** and **Translator** to convert the Source Code into Three Address Code and finally into x86 Assembly Code.

Single Cycle CPU Design
Term Project | Aut'21
- Designed a **32-bit Single Cycle CPU** (RISC Architecture) in Xilinx ISE 14.7 using **Verilog HDL**.
- Implemented modules such as Instruction Fetch, Instruction Decode, ALU and then synchronized each module together to form the datapath for the processor.
- Individually tested each module and developed a top level test bench corresponding to a simple assembly level program.

Coviapp
Prof Animesh Mukherjee and Prof. Shailendra Varshney | Spr'21
- Built a cross-platform smartphone application using **Flutter** through which COVID data is collected from Kgpians.
- Implemented regular monitoring facilities via the application if a patient is detected positive.
- Developed a web app using **React** consisting of a dynamic dashboard for doctors to facilitate the monitoring of patients.
- Graphically displayed individual patient data using special color codes to facilitate better analysis.

Furniture Rental Store System (FRSS)
Term Project | Spr'21
- Developed a desktop application using **Tkinter** through which customers may loan/rent furniture if required.
- The admin may maintain an inventory, add/delete specific items and keep track of his expenditure and profits.
- Designed an SRS document, made UML diagrams and tested the application using specifically designed test suites

COURSEWORK INFORMATION

Completed with Laboratory Component: Algorithms I, Software Engineering, Switching Circuits and Logic Design, Computer Organization and Architecture, Compilers

Completed: Discrete Structures, Probability and Statistics, Formal Language and Automata Theory, Algorithms II, Machine Learning