ABHINANDAN DE

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EDUCATION

Degree	Institute / Board	Year	CGPA / %
B. Tech in Computer Science and Engineering	IIT Kharagpur	2019 - 2023 (Expected)	**9.62 / 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, PyTorch, Matplotlib, Scikit, React, Flask, Django, Flutter

AWARDS and ACHIEVEMENTS

- Qualified for **Google Code Jam - Round 2** and **Facebook Hacker Cup - Round 2** ▸ ▸   **Sep'21**
- Our team achieved a **Rank of 16** in ACM-ICPC Kanpur Regionals 2020 ▸   **Aug'21**
- Our team achieved 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

Deep Learning ○   **Term Project | Spr'22**

- Built and trained a **ResNet** Classifier using **PyTorch Lightning** and fine-tuned the model to perform transfer learning.
- Implemented the vanilla **Vision Transformer** and a slight variation of the model using the **PyTorch Lightning** library.
- Used various python libraries such as **NumPy**, **matplotlib**, **TensorFlow** and **einops** to facilitate proper data analysis.

Systems Programming ○   **Term Project | Spr'22**

- Implemented a **shell** that would run on top of the Linux kernel and learnt about various **syscalls**.
- Designed a producer-consumer model using **multi threading** and **shared memory** to speed up computation.
- Built a **memory management system** with a **garbage collector** and learnt about **virtual memory**.

Socket Programming ○   **Term Project | Spr '22**

- Developed a **concurrent FTP Server and FTP Client** following a subset of the File Transfer Protocols.
- Implemented a **reliable protocol** on top of **UDP** with all required functions: socket(), send(), recv(), close().
- Developed a version of the Linux-Command **$traceroute** using **Raw Sockets** and the **TTL Field** in the IP Header.

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, Operating Systems, Computer Networks

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