



Achhaya Pathak

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MSc Mathematics and Computing

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EDUCATION

| Degree/Certificate | Institute/Board | CGPA/Percentage | Year |
|---------------------------------|--|-----------------|--------------|
| M.Sc. Mathematics and Computing | Indian Institute of Technology, Guwahati | 8.20 | 2021-Present |
| B.Sc.(Hons) Mathematics | Hansraj College, University of Delhi | 9.10 | 2018-2021 |
| Senior Secondary | CBSE Board | 96% | 2018 |
| Secondary | CBSE Board | 10 | 2016 |

EXPERIENCE

- **Project Intern, IIT Indore** April 2021 - May 2021
Dr Santanu Manna, Dept of Mathematics, IIT Indore [Project Link](#)
 - Conducted a seismic data analysis for the **Hindukush** region of **59255** earthquakes over the years **2000-2020**.
 - Reckoned the **b-value** for the target region as **1.136 ± 0.007** using the **Gutenberg–Richter relation**.
 - Determined which locations are suitable for construction-related operations after carrying out a study based on a **non-uniform division** of the region.
 - Tech Stack: **MS Excel**(data cleaning), **Python**(statistical analysis), **Tableau**(data visualisation)

PROJECTS

- **CCTV Anomaly Detector** July 2022 - September 2022
Coding Club, IIT Guwahati [Website](#) | [GitHub](#)
 - Developed a model using **ConvLSTM** layers for **Spatio-temporal** data capable of **detecting abnormalities on CCTV footage** using **Deep Learning** techniques.
 - Programmed a **pipeline** to transform input videos into tensors by extracting frames using **OpenCV**.
 - Designed the structure and deployed the application on **Streamlit**.
 - Tools/Technology used: Keras, OpenCV, Streamlit
- **DeFin - An Ethereum Wallet** June 2022 - August 2022
Self [Website](#) | [GitHub](#)
 - A responsive platform that allows users to **send transactions** over the **Ethereum blockchain**.
 - Users can access the **latest transactions** along with **transaction logs** and **net transaction** for a specific address.
 - Worked on combining **ReactJS** application with **Ethereum wallet** and deployed **smart contract** on **Goerli Testnet**.
 - Tools/Technology used: ReactJS, Tailwind CSS, Solidity, MetaMask
- **IITG Buy and Sell Portal** Ongoing
Dr Ashok Singh Sairam, Dept of Mathematics, IIT Guwahati [GitHub](#)
 - Building an **online marketplace** for IITG Campus that would facilitate the users to **buy and sell used goods**.
 - Curating a **user sign-in sign-up authentication** and framing a set of **filters** to facilitate **specific product searches**.
 - Tools/Technology used: HTML, CSS, PHP, MySQL

TECHNICAL SKILLS

Programming: C, C++, Java

Database: MySQL, MongoDB

Web Technologies: HTML, CSS, ReactJS, Streamlit, PHP

Operating Systems: Windows, Ubuntu

KEY COURSES TAKEN

- **Computer Science:** Data Structures and Algorithms, Advanced Data Structures and Algorithms, Database Management Systems, Theory of Computation
- **Mathematics:** Graph Theory, Discrete Mathematics, Linear Algebra, Probability Theory, Differential Equations

ACHIEVEMENTS

- **GeeksForGeeks Practice:**
 - Institute **Rank 4** among **4000+** registered students from IIT Guwahati.
 - Solved **650+ DSA problems** with a score of **2400+ points**.
- **IIT JAM 2021:** Secured **All India Rank 110** among **13186** students in **Master's entrance exam**.
- **INSPIRE Scholar:** Receiving scholarship for securing a position in the **top 1% of all students in AISSCE 2018**.

EXTRACURRICULAR

- **Seminar on Proof of Work in a Blockchain Network**
 - **Analysed the problem addressed** in the original **Bitcoin paper** by Satoshi Nakamoto.
 - Presented the idea of **Digital Signatures** along with the use of **cryptographic hash functions** in comprehending the concept behind **Proof of Work**.
- **Event Head, IDENTITY:** Successfully managed and coordinated with a **team of 16 people** to conduct various games during the annual cultural fest of the Department of Mathematics, Hansraj College, that observed **500+ participation**.