

# DEBMALYA SUR

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## EDUCATIONAL QUALIFICATIONS

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### Indian Institute of Technology, Dhanbad (IIT Dhanbad)

Master of Technology in Computer Science and Engineering | CGPA : 9.26 2022 – 2024

### Government College of Engineering & Ceramic Technology, Kolkata

Bachelor of Technology in Computer Science and Engineering | CGPA : 9.87 2018 – 2022

### Bhatpara Amar Krishna Pathsala, Bhatpara

Class XII (WBCHSE) | Percentage: 92.4% 2017 – 2018

Class X (WBBSE) | Percentage: 93% 2015 – 2016

## SKILLS

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**Technical** Python, ML, DL, NLP, LLM, GAN, Computer Vision, REST API, Backend, C++, C.  
**Limited Exposure** Flask, SQL, SQLite3, Tkinter, Firebase, MongoDB, AWS, HTML, Bootstrap, Tailwind.

## WORKING EXPERIENCE

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**Research Intern @ Samsung Research Institute Bangalore (SRIB)** June 2023 - Aug 2023

- I have worked with the OnDevice AI team on the technology Render Thread Optimization.
- I worked on the texture optimization because if it can increase the user experience & came up with an algorithm which uses Huffman Encoding and which has a compression ratio of 93%.

## TECHNICAL PROJECTS

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- **Smart Online MCQ Portal with Detection of Malpractice.** Building an online portal where an user can conduct MCQ examination. I am currently working on the computer vision to detect the malpractice. Making the project such that it can be scalable efficiently. Technology used python, computer vision, system design.
- **Smart Attendance System with Proxy Detection.** Built an IoT based project to automate the attendance taking procedure. Integrated machine learning and python library to get a higher accuracy and detect the proxy attendance. Technology used python, computer vision, google drive API.
- **Baud News.** Built an user-specific news service web application. News are sent in the personalized manner. To update news, I have used Cronjob which updates news JSON file in every 2 hours. Technology used flask, redis, python, firebase, html, bootstrap.

## RESEARCH WORK

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**A Clustered Federated Learning approach for non-Independent and Identically distributed data** (communicated to journal of *Engineering Applications of Artificial Intelligence* under *Elsevier* publication) –

- Final year thesis of IIT Dhanbad under the supervision of Prof. Sachin Tripathi.
- Contributed on the emerging technology Clustered Federated Learning under the domain of Internet of Medical Things (IoMT), where the non-IID data is the most relevant data.
- The objective of this research was to contribute an architecture which would be communication efficient and scalable as well as works efficiently for non-IID data.
- The research work concluded its findings after successfully executing an extensive testing on synthetic dataset.

## ACHIEVEMENTS

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- GATE CS All India Rank (AIR) 405 on 2022.
- Written and published book on [C Programming Quick Start](#). Also I own the copyright to this book.
- AIR 4<sup>th</sup> in Theory of Computation NPTEL examination, 2021.
- Secure 127<sup>th</sup> rank in SEAMO, 2017 from South East Asia region.