

DEBMALYA SUR

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EDUCATIONAL QUALIFICATIONS

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) (2017 - 2018) | Percentage: 92.4% Class X (WBBSE) (2015 - 2016) | Percentage: 93%

SKILLS

Technical Expertise	Python, Machine Learning, Deep Learning, Natural Language Processing (NLP), Large Language Models (LLMs), Generative Adversarial Networks (GANs), Computer Vision, C++, C, GUI Development, Data Analysis, Data Extraction, Data Visualization
Proficient Tools	Flask, SQL, SQLite3, Firebase, MongoDB, AWS, HTML, Bootstrap, Tailwind CSS, Redis.

PROFESSIONAL EXPERIENCE

Senior Engineer @ Samsung Research Institute Bangalore (SRIB) July 2024 - Present

- Enhanced Samsung's user interface through computer vision-based innovations for improved user experience.
- Analyzed large-scale datasets, performing advanced data extraction and visualization to derive actionable insights.
- Optimized deep learning models for on-device applications, ensuring efficiency and scalability.

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

- Collaborated with the OnDevice AI team to optimize render thread performance, focusing on reducing latency and improving device responsiveness.
- Designed and implemented a Huffman Encoding-based texture optimization algorithm, achieving a compression ratio of 93%.
- Conducted data extraction and visualization to support the development and testing of optimization algorithms.

TECHNICAL PROJECTS

Smart Attendance System with Proxy Detection: Designed an IoT-powered attendance system incorporating machine learning algorithms to automate attendance tracking and detect proxy attendance. Utilized Python, computer vision, and Google Drive API for backend integration.

Baud News: Developed a web-based application offering personalized news content tailored to user preferences. Implemented real-time updates using Cron jobs and employed Flask, Redis, Firebase, and Bootstrap for development.

RESEARCH WORK

Clustered Federated Learning Approach for Non-Independent and Identically Distributed (Non-IID) Data
(Communicated to *Expert Systems With Applications*, ScienceDirect)

- Proposed a scalable and communication-efficient architecture for Clustered Federated Learning, addressing non-IID data challenges in Internet of Medical Things (IoMT).
- Conducted extensive testing on synthetic datasets, validating the architecture's performance and efficiency.
- Supervised by Prof. Sachin Tripathi as part of my MTech thesis at IIT Dhanbad.