

# SUDIPTA SARKAR

Department of Computer Science  
Ramakrishna Mission Residential College (Autonomous)  
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## Objective

A committed Computer Science postgraduate student with expertise in **Artificial Intelligence, Deep Learning and Computer Vision**. Proficient in programming and theoretical concepts, seeking opportunities to apply knowledge and contribute to advanced research in dynamic environments.

## Education

### M.Sc. in Computer Science

Sept. 2023 – June 2025

*Ramakrishna Mission Residential College (Autonomous), Narendrapur, Kolkata, India*

- **Thesis Topic:** Super Image For Efficient Large Scale Video Action Recognition
- **Guide:** Prof. Abir Das, Department of Computer Science and Engineering, IIT Kharagpur
- **CGPA:** 9.95 out of 10.00 (96.30%)

### B.Sc. in Computer Science

Sept. 2020 – May 2023

*Ramakrishna Mission Vivekananda Centenary College, Rahara, Kolkata, India*

- **Thesis Topic:** Human Facial Expression Detection
- **Guide:** Prof. Chayan Halder and Prof. Prasenjit Das, Department of Computer Science, RKMVCC, Rahara
- **CGPA:** 9.72 out of 10.00 (92.02%)

### Higher Secondary

May 2018 – May 2020

*Hogalbaria Adarsha Siksha Niketan (H.S), Hogalbaria, Nadia, West Bengal, India*

- **Subject Combination:** Physics, Chemistry, Mathematics, and Biology
- **Board:** WBCHSE
- **Percentage:** 83%

## Projects and Research Works

### Super Image For Efficient Large Scale Video Action Recognition | *PyTorch, Hiera Vision Transformer* June 2025

- Rearranged video frames into super images to convert video action recognition into an image classification task. Employed Hiera Vision Transformer (Hiera-ViT) as the classifier, achieving competitive results on Kinetics-400 and Something-Something V2 (SSV2) datasets.
- Final year M.Sc. project under the supervision of Prof. Abir Das, IIT Kharagpur.

### Image Steganography and Steganalysis | *Python, Deep Learning, CNN, LSTM* June 2024

- Investigated techniques for embedding and detecting hidden messages in images using CNN and LSTM models. Applied optimization techniques to enhance robustness and improve the quality of hidden messages.
- Supervised by Prof. Siddhartha Banerjee and Prof. Bibek Ranjan Ghosh, Ramakrishna Mission Residential College (Autonomous), Narendrapur.

### Human Facial Expressions Detection | *Python, Deep Learning, CNN* May 2023

- Developed a CNN-based model to classify facial expressions such as anger, fear, surprise, sadness, and happiness by analyzing facial features. Trained on facial emotion datasets to identify emotions in real-time.
- Final year B.Sc. project under Prof. Chayan Halder and Prof. Prasenjit Das, Ramakrishna Mission Vivekananda Centenary College, Rahara.

### Nuclei Segmentation Using UNet | *Python, Deep Learning, UNet* March 2023

- Implemented a UNet-based architecture to segment cell nuclei in microscopy images, enhancing image analysis for biological research.
- Supervised by Prof. Biswajit Biswas, Ramakrishna Mission Vivekananda Centenary College, Rahara.

## Experience

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### Research Intern, IIT Kharagpur

Jan. 2025 – Ongoing

*Department of Computer Science and Engineering, IIT Kharagpur, India*

- **Project Title:** Resource-Efficient Learning for Video Scene Understanding (RLV).
- **Under Supervision:** Prof. Abir Das, Department of Computer Science and Engineering, IIT Kharagpur.

### IT Sub-Committee Member, Vidyarthi Sabha

Sept. 2023 – Sept. 2024

*Ramakrishna Mission Residential College (Autonomous), Narendrapur, Kolkata, India*

- Managed and provided IT consulting services as part of the Vidyarthi Sabha IT Sub-Committee.

### Co-Organizer, Neuroverse Coding Competition

March 2023 – April 2023

*Ramakrishna Mission Vivekananda Centenary College, Rahara, Kolkata, India*

- Designed and curated problem sets for Neuroverse, a college-level coding competition.

## Relevant Courses

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|-------------------------------------|------------------------------------|---------------------|
| • Design and Analysis of Algorithms | • Database Management Systems      | • Machine Learning  |
| • Data Structures                   | • Mathematics for Computer Science | • Deep Learning     |
| • Theoretical Computer Science      | • Artificial Intelligence          | • Computer Vision   |
|                                     |                                    | • Generative Models |

## Technical Skills

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**Languages:** C, C++, Python, Java, SQL

**Developer Tools:** VS Code, Eclipse, Jupyter Notebook, Qt Creator,

**Technologies/Frameworks:** OpenCV, Numpy, Pandas, Scikit, TensorFlow, PyTorch, Torchvision, Linux, GitHub, LaTeX

## Achievements

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| • <b>Qualified UGC-NET (LS) with 99.83 Percentile</b>                | July 2025 |
| • <b>1st Rank Holder in M.Sc Course</b>                              | June 2025 |
| • <b>Selected for National Scholarship for Post Graduate Studies</b> | Oct 2024  |
| • <b>3rd Rank in RKMVERI M.Sc Admission Test</b>                     | June 2023 |
| • <b>3rd Rank Holder in B.Sc Course</b>                              | May 2023  |
| • <b>1st Rank in Intra College Coding Competition</b>                | May 2022  |

## Research Interests

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|-------------------|-----------------------|----------------------------|
| • Computer Vision | • Generative Models   | • Video Action Recognition |
| • Deep Learning   | • Pattern Recognition | • Activity Detection       |

## Languages

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|----------------------------------|----------------------------------|--------------------------------|
| • English (Professional working) | • Hindi (Elementary proficiency) | • Bengali (Native proficiency) |
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## Interests

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| • Coding | • Reading | • Cricket |
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## Referees

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### • Dr. Chayan Halder

- Assistant Professor, Department of Computer Science
- Ramakrishna Mission Vivekananda Centenary College, Rahara, Kolkata, India
- Email: chayan.comp@rkmvccrahara.org

### • Dr. Siddhartha Banerjee

- Associate Professor and Head of the Department, Department of Computer Science
- Ramakrishna Mission Residential College, Narendrapur, Kolkata, India
- Email: sidd0102@yahoo.com