# Saikat Sarkar

*Assistant Professor | Computer Vision Researcher*

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## Current Position

Nov 2016 – Present **Assistant Professor**, *Department of Computer Science, Bangabasi College*, Kolkata, India

## Research Interests

Computer Vision · Sports Analytics · Reinforcement Learning · Image Processing · Deep Learning · Large Language Models (LLMs) · Vision-Language Models (VLMs)

## Education

Feb 2024 **Ph.D. in Information Technology**, *University of Calcutta*, Kolkata, India
Thesis: *Estimation of Ball Possession Statistics in Soccer Video*

Jul 2011–Jun 2013 **M.Sc. in Computer Science**, *Banaras Hindu University (BHU)*, Varanasi, India, SGPA: 8.77

Jul 2008–Jun 2011 **B.Sc. in Computer Science**, *Ramakrishna Mission Residential College, Narendrapur (University of Calcutta)*, Kolkata, India, Overall: 75.87 %

## Additional Qualification

2014 **UGC NET** — Junior Research Fellowship (JRF)

## Postdoctoral Research Projects

2025-26 Blast Furnace Monitoring System using Video

2024-25 Metallic Surface Defect Inspection System

## Work Experience

Aug 2013–Jul 2016 **Associate**, *Cognizant Technology Solutions (CTS)*, India

## Publications — Journals

**Saikat Sarkar**, Spandan Basu, Angshuman Paul, and D. P. Mukherjee
**ViViD: View Prediction of Online Video Through Deep Neural Network-Based Analysis of Subjective Video Attributes**
*IEEE Transactions on Broadcasting, vol. 69, pp. 191–200, 2023*

**Saikat Sarkar**, D. P. Mukherjee, and A. Chakrabarti
**Reinforcement Learning for Pass Detection and Generation of Possession Statistics in Soccer**
*IEEE Transactions on Cognitive and Developmental Systems, 2022*

**Saikat Sarkar**, D. P. Mukherjee, and A. Chakrabarti
**From Soccer Video to Ball Possession Statistics**
*Pattern Recognition, vol. 122, p. 108338, 2022*

T. N. Mishra, **Saikat Sarkar**, and K. N. Rai
**Numerical Solution of Dual-Phase-Lagging Heat Conduction Model for Analyzing Overshooting Phenomenon**
*Applied Mathematics and Computation, Elsevier, pp. 693–708, 2014*

## Publications — Conferences

S. Bose, **Saikat Sarkar**, and A. Chakrabarti
**SoccerKDNet: A Knowledge Distillation Framework for Action Recognition in Soccer Videos**
*Intl. Conf. on Pattern Recognition and Machine Intelligence (PReMI), Springer, 2023*

**Saikat Sarkar**, D. P. Mukherjee, and A. Chakrabarti
**Watch and Act: Dual Interacting Agents for Automatic Generation of Possession Statistics in Soccer**
*IEEE CVPR Workshop on Computer Vision in Sports (CVSports), 2022*

**Saikat Sarkar**, S. Ali, and A. Chakrabarti
**Shot Classification and Replay Detection in Broadcast Soccer Video**
*Advanced Computing and Systems for Security (ACSS), pp. 57–66, Springer, 2020*

**Saikat Sarkar**, A. Chakrabarti, and D. P. Mukherjee
**Generation of Ball Possession Statistics in Soccer Using Minimum-Cost Flow Network**
*IEEE CVPR Workshop on Computer Vision in Sports (CVSports), 2019*

**Saikat Sarkar**, A. Chakrabarti, and D. P. Mukherjee
**Estimation of Ball Possession Statistics in Soccer Video**
*11th Indian Conf. on Computer Vision, Graphics and Image Processing (ICVGIP), ACM, 2018*

## Selected Talks

2025 **Sports Analytics**, *4th Winter School on Deep Learning*, ECSU, ISI Kolkata

2022 **Let's Recognize Objects in Images: From Theory to Practice**, *1st Workshop on Deep Learning and its Applications*, School of Computer Engineering, KIIT

2022 **An Introduction to Reinforcement Learning**, *1st Winter School on Deep Learning*, ECSU, ISI Kolkata

## Professional Service

Reviewer — Computer Vision and Image Understanding — CVIU (Elsevier) · SN Computer Science (Springer) · IEEE Transactions on Multimedia · Sadhana — Academy Proceedings in Engineering Science (Springer)

Session Chair — 4th Doctoral Symposium on Human Centered Computing (HUMAN-2026), Computer Society of India, Kolkata, 2026

## Media & Outreach

Website — *Personal website*

YouTube — *Easy CS* – a channel on computer science and deep learning concepts

Writing — *Medium* blog on machine learning and computer vision

## Technical Skills

Languages — Python, C++, C, C#, MATLAB

ML / CV — TensorFlow, PyTorch, Keras, OpenCV, Ultralytics

LLM / Tooling — LangChain, OpenAI API, Streamlit

Other — SharePoint 2010