Anindya Mondal

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Education

- **Surrey Institute for People-centred AI, CVSSP, University of Surrey** **Guildford, United Kingdom**
  PhD Candidate, *Started Oct 2022*
  Proposed thesis: Integrating Auxiliary Information for Representation Learning for the Natural World
- **Jadavpur University** **Kolkata, India**
  Bachelor of Electronics and Telecommunication Engineering (Hons.); GPA: 8.79/10, *Aug 2018 - Jun 2022*
  Relevant Coursework: Signal and Image Processing, Data Structures and Algorithms, Computer Networks, Internet of Things, Control Systems

Research Interests

Video Representation Learning, Vision-Language, Multimodal Learning, Graph Signal Processing

Research Experience

- **Surrey Institute for People-centred AI, CVSSP, University of Surrey** **Guildford, UK**
  Doctoral Researcher (Full-time) *Oct 2022 - Present*
  - Developed an actor-agnostic transformer-based multimodal action recognition model.
  - Working on creating a benchmark for action recognition, action detection, and segmentation for animals.
  - Working on developing a class-agnostic object counting model using vision-language models.
- **Indian Institute of Science** **Bengaluru, India (Remote)**
  Research Intern (Part-time) *May 2022 - Aug 2022*
  - Designed a source-free domain adaptation framework for image classification tasks, leveraging class-level consistency of target features.
- **Jadavpur Univeristy** **Kolkata, India**
  Undergraduate Research Assistant *Oct 2020 - May 2022*
  - Applied a Sobolev norm minimization algorithm to reconstruct time-varying graph signals and recover missing data in sensor networks.
  - Proposed a graph-based semi-supervised learning framework for semantic segmentation in event-based data.
  - Applied a modification of the graph spectral clustering algorithm to detect moving objects from event data (joint work with Univ. La Rochelle, France).

Publications

- **Anindya Mondal***, Sauradip Nag*, Joaquin M Prada, Xiatian Zhu, Anjan Dutta*, *Actor-agnostic Multi-label Action Recognition with Multi-modal Query*, **International Conference on Computer Vision (ICCV) Workshops 2023**, **DOI**: 10.1109/ICCVW60793.2023.00086.
- JAC Correa*, JH Giraldo*, **Anindya Mondal***, et al., *Time-varying Signals Recovery via Graph Neural Networks*, **IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) 2023**, **DOI**: 10.1109/ICASSP49357.2023.10096168.
- **Anindya Mondal**, et al., *Recovery of Missing Sensor Data by Reconstructing Time-varying Graph Signals*, **European Signal Processing Conference (EUSIPCO) 2022**, **DOI**: 10.23919/EUSIPCO55093.2022.9909940.
- **Anindya Mondal***, R Shashant*, et al., *Moving Object Detection for Event-based Vision using Graph Spectral Clustering*, **International Conference on Computer Vision (ICCV) Workshops 2021**, **DOI**: 10.1109/ICCVW54120.2021.00103.

***Equal Contribution.**

Computer/IT Skills

- **Languages:** Python, MATLAB, C
- **Tools/ Packages:** Git, Pytorch, Scikit-Learn, Numpy, Scipy, Pandas

Miscellaneous

Awards and Honors

- *Postgraduate studentship*, Awarded by the Faculty of Engineering and Physical Sciences, University of Surrey (Jun 2022)
- *Uplink Research Internship Award*, Awarded by the ACM SIGKDD India Chapter (Mar 2022)

Teaching/ Demonstrating

- *Teaching Assistant*, Demonstrator for the course 'EEEM068: Applied Machine Learning (AML)', **University of Surrey** (2023, 2024)
  Teaching Assistant, Demonstrator for the course 'EEEM071: Advanced Topics in Computer Vision and Deep Learning', **University of Surrey** (2024)

Reviewing for peer-reviewed conferences/ journals

- *IEEE International Symposium on Biomedical Imaging (ISBI), 2024*
- *International Conference on Acoustics, Speech, and Signal Processing (ICASSP), 2024*
- *IEEE Transactions on Signal Processing*, 2023
- *International Conference on Computer Vision (ICCV) Workshops*, 2023
- *NeurIPS (Ethics Reviewer)*, 2023
- *NeurIPS Temporal Graph Learning (TGL) Workshop*, 2022, 2023
- *8th International Workshop on Event Sensing and Neuromorphic Engineering*, 2022