

Sayantan Das

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Research interests	Artificial Intelligence, Machine Learning, Deep Learning, Computer Vision.
Education	Maulana Abul Kalam Azad University of Technology Kolkata, India BTech in Computer Science and Engineering July 2016 – July 2020 Mentors: Professors Sourav Saha, Amit Kumar Das. <i>GPA: 8.39/10.0</i>
Awards	Student Travel Grant (Neural Information Processing Systems 2020) 2020 Student Travel Grant (International Conference on Learning Representations 2021) 2021
Publications	Topo Sampler: A Topology Constrained Noise Sampling for GANs [SPOTLIGHT] <i>First Authors in Bold</i> Adrish Dey, Sayantan Das <i>NeurIPS 2020 Workshop TDA and Beyond</i> Dual Attention Residual Band Selection Network for Spectral-Spatial Hyperspectral Classification <i>First Authors in Bold</i> Swalpa Kumar Roy, Sayantan Das, Tiecheng Song, Bhabatosh Chanda <i>IEEE Geoscience and Remote Sensing Letters (Impact Factor:3.38), 2020.</i>
Research experience	ETH Zurich Mentors: Dr Bastian Rieck Sep 2020 – Feb 2021 Manifold Learning for Generative Models, Topological Data Analysis Indian Statistical Institute Mentors: Dr Bhabatosh Chanda , Swalpa Kumar Roy Mar 2020 - Jul 2020 Worked at the Computer Vision and Pattern Recognition Unit, ISI Kolkata under Prof. Bhabatosh Chanda on Hyperspectral Satellite Imagery applications. A work accepted to IEEE Geoscience and Remote Sensing Letters was done during this internship. Indian Space Research Organisation Mentors: Manavalu Ramanujam, Jalpa Modi June 2020 – Aug 2020 Worked at the Signal and Image Processing Group Lab on Satellite Imagery applications in military surveillance. Report was on Ground Moving Target Indication using military-grade Microwave Satellite data.
Academic Service	Poster 27 Ontario Workshop on Computer Vision Program Committee, Reviewer ICML 2021 - LatinX in AI Reviewer ICLR 2021 - Rethinking ML Papers, ICML 2021 - Computational Approaches to Mental Health

	<p>Member Applied Algebraic Topology Research Network. The Applied Algebraic Topology Research Network promotes and enables collaboration in algebraic topology applied to the sciences and engineering by connecting researchers through a virtual institute.</p>
Test Scores	<p>GRE General Test - 317/340 Quant-163, Verbal-154, AWA-4.0 TOEFL iBT - 106/120 Reading-28, Listening-29, Speaking-23, Writing-26</p>
Open Source	<p>Google Code In 2019 Mentor Tensorflow: Mentored and assisted high school students in developing projects using tf, tf.js and tflite. Example tasks include reviewing pull requests to tensorflow/tfjs repository Code Contributions (more on GitHub) torchsde, torchdyn</p>
Talks and Tutorials	<p>Is India prepared for emerging technologies? Feb 2020 Panel discussion at IEEE CALCON 2020 Point Target Analysis and Detection of Moving Targets in SAR Images June 2019 Talk on my research internship project at Indian Space Research Organisation. Satellite Imagery meets Computer Vision Oct 2020 IEM Kolkata</p>
Personal Projects	<p>Earth Engine Deep Learning An end to end system for LandSat8 LandCover (LULC) Classification system that uses GCP and Tensorflow 1.x. EarthEngine assets stored in GCS buckets are converted into TFRecords to aid data prefetching. Once TFRecords are created, it is easily usable by Tensorflow API. During inference, the class predictions are used to create the classification map and the map is overlaid back in Google Earth Engine. Band Selection Networks for Hyperspectral Imagery In this project, a neural network learns the most informative bands. Channel Attention Module is used to fetch information in the spectral band. I replaced it with a Dual Attention Module that incorporates both spatial and spectral information from the original HSI cube. Spotify Recommendation Engine Spotify Recommendation Engine is a music recommender system based on matrix factorization techniques (arguably) used by the Spotify Team. This is a work in progress project and has garnered some interest at Open Source programs. Cloud Movers Distance Employing Gromov Wasserstein and other optimal transport metrics for point cloud registration scikit-on-gRPC Using Protocol Buffers and gRPC client-server communication to deploy a scikit-learn joblib exported model.</p>