

Adrish Dey

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Education:	Netaji Subhash Engineering College (NSEC) Bachelors of Technology in Computer Science and Engineering (with Honors) Kolkata, India	July 2017 - September 2021
Research Interests:	Geometric Deep Learning, Topological Data Analysis, Generative Models, Implicit Models	
Accepted Publications:	<ul style="list-style-type: none">• (Spotlight) Topo Sampler: A Topology Constrained Noise Sampling for GANs; Adrish Dey*, Sayantan Das; NeurIPS 2020 Workshop on Topological Data Analysis and Beyond	
Research Presentations:	<ul style="list-style-type: none">• (Spotlight Talk) Topo Sampler: A Topology Constrained Noise Sampling for GANs; To appear at NeurIPS 2020 Workshop on Topological Data Analysis and Beyond	
Research Service:	<ul style="list-style-type: none">• Reviewer at ICLR 2021 Workshop on Geometry and Topology in Representation Learning	
Research Experience:	Bachelors Thesis Title: Convolution on Simplicial Complexes Mentored By: <i>Dr Bastian Rieck (ETH Zurich), Prof. Shilpi Bose (NSEC)</i>	February 2021 - Present
	Massachusetts Institute of Technology (MIT) CSAIL Mentored By: <i>Prof. Justin Solomon (MIT)</i> <ul style="list-style-type: none">• Summer Geometry Institute Fellow, Geometric Data Processing Group	July 2021 - August 2021
	Independent Research Remote Mentored By: <i>Dr Bastian Rieck (ETH Zurich)</i> <ul style="list-style-type: none">• Studied Disconnected Manifold Learning in GANs, using Persistent Homology.• Implemented Experiments, Authored a NeurIPS Workshop Submission.	September 2020 - October 2020
	Opaltech.ai Remote Mentored By: <i>Dr. Shahrouz Ryan Alimo (NASA Jet Propulsion Lab)</i> <ul style="list-style-type: none">• Researched and Implemented a RGBD SLAM based 3D Scene Reconstruction Framework.• Implemented a Ray Tracing based Simulator for Synthetic data Generation	May 2020 - August 2020
	Rephrase.ai Bangalore, Karnataka, India <ul style="list-style-type: none">• Designed a data pre-processing unit, for stream lining audio-splitting / filter-bank generation.• Researched and Implemented a sparsity-optimized version of a hessian-free second-order optimizer.• Contributed to GAN driven domain translation of face expressions.	December 2019 - February 2020
Open Source:	Google Summer of Code (TensorFlow) Mentored By: Sachin Joglekar (Google), Vojtech Bardiovsky (Google) <ul style="list-style-type: none">• Implemented ESRGAN (https://arxiv.org/abs/1809.00219) and published the trained model to TensorFlow Hub: https://tfhub.dev/captain-pool/esrgan-tf2/1• Implemented GAN Distillation Framework for ESRGAN generator. Achieved ~628x compression factor with minimal drop in reconstruction quality. Capable of running near-real-time video frame super resolution on Pixel 3 CPU (https://github.com/captain-pool/GSOC/tree/master/E3_Streamer)• Added Support for displaying AutoGraphed tf.functions, with TensorFlow saved_model_cli (https://github.com/tensorflow/tensorflow/pull/30752)	May 2019 - August 2019