Ninad Jayesh Gandhi

github | linkedin | website | mail |

Education

Indian Institute of Technology Bombay 2022 - present
MS Research, Data Science and Artificial Intelligence *CGPA: 8.46/10.0*

GCET, Gujarat Technological University 2015 - 2019
Bachelors of Technology, Electronics and Communication Engineering *CGPA: 8.86/10.0*

GNFC, Bharatiya Vidya Bhavan's 2013 - 2015
SSC Education *Percentage: 78.3/100*

Academic Research

Research Projects

Training Small Language Models in Multitask setting Work-In-Progress
Guided by: *Prof. Abir De, IIT Bombay*

Abstract: Language models are very robust and can be finetuned on any task of choice. In the multi-task setting, a language model must be finetuned (i.e. using adapters like LoRA) on a set of in-distribution tasks and evaluated on out-of-distribution tasks in a few-shot and supervised setting. The modeling assumptions include the presence of modular latent skills and can be disentangled by training modular adapter architectures.

Trajectory Prediction for Autonomous Driving Work-In-Progress
Guided by: *Prof. Abir De, IIT Bombay and Prof. Ujwal Gadiraju, Delft University of Technology*

Abstract: The trajectory prediction problem in autonomous driving is the problem of predicting the future state of the environment given historical states of the same. The environment contains agents that can make decisions based on the environment state and their latent objectives, which makes the prediction problem challenging.

Course Projects

Adapting SELCON algorithm for Efficient Data Subset Selection to assist Classification Tasks Presentation
Course: *CS769 - Optimization for Machine Learning, Prof. Ganesh Ramakrishnan*

Abstract: Designing an algorithm for selecting a subset of the data, to train ML models efficiently without reducing the performance. Our work adapts the SELCON algorithm by Sivasubramanian et al. to the classification task.

Exploring Novel Sampling Techniques In SDE-Based Denoising Generative Models Report
Course: *CS726 - Advanced Machine Learning, Prof. Sunita Sarawagi*

Abstract: Sampling from a diffusion models is notoriously inefficient on account of sequential noise removal in the reverse diffusion process. In our work, we explore various methods for sampling efficiently from a diffusion model.

LaTeXify - OCR for Math Report

Course: *CS725 - Foundations of Machine Learning, Prof. Preethi Jyothi*

Abstract: Converting handwritten formulas in digital images to LaTeX. In our work, we convert the image to formula and symbol graphs and use the GNN model inspired from this paper. The model was trained on IM2LaTeX100k Dataset

Work Experience

Embedded System Designer (Self-Employed) May 2019 - Mar 2021

I worked independently with an electronics engineering firm, Pot tech electronics (bombay) pvt. Ltd on multiple embedded system design projects.

Industry Projects

Inclinometer

Inclinometer is a sensor that converts angular position in the spherical coordinate system into voltage signal having multiple output ranges (0 to 5 Volts, 0 to 10 Volts, -5 to 5 V).

MiniSSP (Solid State Potentiometer)

A potentiometer is a manually adjustable variable resistor with 3 terminals. A known problem of analog potentiometers is mechanical wear and tear. Solid state potentiometers do not undergo mechanical wear and tear, since there are no moving parts.

Positions of Responsibility

- **General Secretary**, CMInDS Department, IIT Bombay.
- **System Administrator**, CMInDS Department, IIT Bombay.
- **Teaching Assistant**, IIT Bombay.