Jaisidh Singh

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Education

Indian Institude of Technology Jodhpur — Jodhpur, Rajasthan, India
Bachelor's in Technology AI and Data Science **GPA: 8.27/10** — Dec 2020 - Present

SGGS Public School — Chandigarh, India
Class 12 Non-Medical **Percentage: 94.8%** — July 2018 - March 2020

Bhavan Vidyalaya Chandigarh — Chandigarh, India
Class 10 **Percentage: 94.8%** — April 2016 - March 2018

Experience

- **Undergraduate Researcher**
  Pure Transformers for Low-Res Fine Grained Classification | Self Research — July 2022 to present
  - Utilizing the power of vision transformers for fine-grained classifications tasks using low-resolution images.
  - Writing a custom model for the research task, and analysing loss functions, choosing popular attribute-based datasets like AwA2 and CUB
- **Undergraduate Researcher**
  Understanding financial distress using ML | with Dr. Gaurav Kumar — August 2021 to January 2022
  - Worked on the analysis, mathematical modelling and prediction of financial distress in companies using machine learning.
  - Extracted yearly financial data from the Prowess database for feature engineering and dataset preparation for model training.

Projects

- **Face-Recognition at Scale** *(Python, Tensorflow, Sklearn, PyTorch)* | GitHub Link
  - The project aimed to enable the students of IIT Jodhpur to retrieve their photos from a large gallery using only a few of their facial images.
  - Analysed pre-trained facial detectors for performance v/s latency trade-off strategies and worked on dimensionality reduction and clustering of facial embeddings for prediction.
- **Multi-Article TLDR** *(Python, huggingface, sklearn, natural language toolkit)* | GitHub Link
  - A summarization pipeline for summarizing long inputs, especially multiple articles using SOTA models like BART.
  - Analysed strategies and implemented a clustering-based approach for sentences embeddings and produced accurate summarizations.
- **Permutation Invariant RL** *(Python, PyTorch, OpenAI Gym)* | GitHub Link
  - Developed a pipeline for reinforcement learning algorithms, primarily using Sensory Neuron as a Transformer for permutation invariance with respect to the input.
  - Achieved great results on the CartPole environment in OpenAI's gym, and operating the same on Classic Snake underway.

Relevant Coursework

Pattern Recognition and Machine Learning, Stanford Computer Vision (CS231N), Building Transformer Based Natural Language Applications (Nvidia-DLI), Probability, Statistics and Stochastic Processes, Linear Algebra, Calculus and Differential Equations, Data Structures and Algorithms, Foundations of Quantum Computing, Maths for Computing, Principles of Computer Systems.

Skills

- **Programming Languages** : Python (Primary), JavaScript (Primary), Dart, C++.
- **Libraries/Frameworks**: PyTorch, Tensorflow, Numpy, Sklearn, ReactJS, NodeJS, Flutter.
- **Technologies** : Linux, Git, GitHub, Docker, GraphQL, PostgesQL.