Soham Chitnis

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EDUCATION

BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE, PILANI
B.E. (Hons.) in Computer Science
Aug 2024
CGPA: 8.5/10

COURSEWORK

UNDERGRADUATE
Data Structures and Algorithms
Database Management System
Object Oriented Programming
Computer Programming

ONLINE
Deep Learning Specialization
Machine Learning by Stanford
CS231n by Stanford Online

WORKSHOPS
Fundamentals of Deep Learning by NVIDIA DLI
Building Transformer Based Natural Language Processing Applications by NVIDIA DLI
Computer Vision & Machine Learning Summer School, IIIT Hyderabad

SKILLS

PROGRAMMING
Python, C/C++, Java, SQL

FRAMEWORKS
Pytorch, Tensorflow/Keras

PYTHON LIBRARIES
Numpy, Scikit-Learn, OpenCV, Pandas

OTHERS
Linux programming, HTML, CSS

VOLUNTEER

Member, Society for AI & DL
Core Member, Electronics & Robotics Club

TEACHING EXPERIENCE
Winter 2021 | Mentor - Mathematics-II(Linear Algebra & Complex Analysis)
Spring 2022 | Teaching Assistant - Computer Programming
Summer 2022 | Instructor - Introduction to Deep Learning

EXPERIENCE

CENTRAL ELECTRONICS ENGINEERING RESEARCH INSTITUTE (CSIR-CEERI) | Research Intern
May 2022 - Ongoing

Hyperspectral Imaging for Polymer Characterization in Plastic Segregation
Supervisor: Dr. Madan Kumar Lakshmanan
Working on Hyperspectral Image (HSI) Classification for plastic segregation. Conducted pre-processing of data and benchmarking models. Implemented self-superived learning methods like SimCLR and supervised learning on CNNs achieved 99.37% accuracy.

APPCAIR, BITS PILANI | Undergraduate Research Collaborator
Feb 2022 - May 2022
Molecule Generation using Deep Graph Generators
Supervisor: Dr. Tirtharaj Dash
Molecular data incorporated with domain knowledge using BotGNNs and this data was used to generate molecules. Molecular data was generated using Variational Graph Autoencoders.

PROJECTS

SUPER-RESOLUTION CONVNET IMPLEMENTATION | Code
Implemented the paper Image Super-Resolution Using Deep Convolutional Networks(SRCNN) & Photo-Realistic Single Image Super-Resolution Using a Generative Adversarial Network(SRResNet) and conducted some experiments

PROJECT KRATOS | Website
Developing Mars Rover for the University Rover Challenge (URC). In year 2022 at URC, team stood at 1st in India, 2nd in Asia and 20th worldwide. Working on Rock analysis using Computer Vision. Building a Deep Learning model for detecting presence of life in rocks.

COMPARATIVE STUDY OF REWARD FUNCTIONS ON POLICY GRADIENT | Code
Conducted a comparative study on different reward functions with Policy gradient algorithm using Gaussian Distribution

ADVERSARIAL DEEP LEARNING | Code
Worked as Contributor on this project, added tutorials for the implemented models for the book Adversarial Deep Learning

MLDATASETS.JL | Code
Machine Learning datasets in Julia Language. Worked as contributor for the project. Added PolBlogs Graph Dataset.

ACHIEVEMENTS

Maharashtra CET (MHT-CET) Percentile: 100 % (Overall), 100 % in Mathematics in 2020
All India JEE ADVANCED 2020 Rank 3343
Dr Homi Bhabha Balvaidayanik Exam : Silver Medal for project Cultivation of Butterfly Garden for Conservation and Enhancement of Biodiversity in 2017