

Soham Chitnis

☎ (+91) 9819765828 | ✉ sohamchitnis10@gmail.com | 🏠 soham-chitnis10.github.io | 📄 soham-chitnis10 | 🌐 soham-chitnis

Summary

Currently a Pre-final year student at Birla Institute of Technology and Science, K.K Birla Goa Campus pursuing Computer Science. I am interested in Computer Vision and currently exploring it in Robotics. I am looking to collaborate on Open-source and Research Projects.

Education

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE

Goa, India

B.E(HONS.) IN COMPUTER SCIENCE, MINOR IN DATA SCIENCE

Oct. 2020 -Present

- **CGPA** - 8.5/10
- **Relevant Completed Coursework:** Computer Programming, Linear Algebra, Probability and Statistics, Calculus, Object-Oriented Programming, Database Systems, Data Structures and Algorithms
- **Teaching Assistant:** Computer Programming

Research Experience

Central Electronics Engineering Research Institute (CSIR-CEERI)

Chennai, India

RESEARCH INTERN | [CODE](#)

May. 2022 - July. 2022

- **Project:** Hyperspectral Imaging for Plastic Segregation
- **Supervisor:** Dr. Madan Kumar Lakshmanan, Dr. Amalin Prince A.
- Conducted **pre-processing** of data and **benchmarking** models.
- Implemented a **data augmentation** module for Hyperspectral Images.
- Trained models using **Self-supervised learning** methods like SimCLR

APPCAIR, BITS Pilani

Goa, India

UNDERGRADUATE RESEARCHER | [CODE](#)

Feb. 2022 - May. 2022

- **Project:** Molecule Generation using Deep Graph Generators
- **Supervisor:** Dr. Tirtharaj Dash
- Generated Molecular data using **Graph Autoencoders** & **Variational Graph Autoencoders**.
- Experimented with Graph ConvNets

Projects

Implementation of Super-Resolution ResNet(SRResNet) & Super-Resolution CNN(SRCNN)

March 2022

[CODE](#)

- Implemented **Super-Resolution CNN** & **Super-Resolution ResNet** with an upsampling factor of 2
- Conducted experiments and study on interpolation modes: **Bi-cubic**, **Bi-linear** and **Nearest Neighbour** and upsampling methods: **Sub-pixel** and **Transpose Convolutions**.

Comparative Study of Reward functions on Policy gradient

August 2021

[CODE](#)

- Conducted a comparative study on different reward functions with **Policy gradient** algorithm to find minima of two variable quadratic function

Bayesian Neural Network for Noisy XOR using Markov Chain Monte Carlo

March 2022

[CODE](#)

- Implemented Bayesian Neural Network using No-U-turn Sampler

Project Kratos

August 2021-Present

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.

Adversarial Deep Learning

September - December 2021

CODE

- Worked as Contributor to this Project. This project is a part of a book being written of same name where this project involves tutorials and implementation for the book.

MLDataset.jl

March 2022

CODE

- Worked as Contributor. Added PolBlogs Graph Datasets in Julia from Torch-geometric.

Certifications & Summer Schools

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| 2022 | AI Summer School , CVIT,IIIT Hyderabad | Online |
| 2022 | Deep Learning Specialization , DeepLearning.AI | Online |
| 2022 | CS231n-Convolutional Neural Networks for Visual Recognition , Stanford | Online |
| 2022 | Building Transformer-Based Natural Language Processing Applications , NVIDIA Deep Learning Institute | Online |
| 2021 | Machine Learning , Coursera | Online |
| 2021 | Fundamentals of Deep learning , NVIDIA Deep Learning Institute | Online |

Skills

- **Languages:** Python, C/C++, Java
- **Toolkits:** Numpy, Scipy, OpenCV, PyTorch, Tensorflow, Keras, Matplotlib, Pandas, Scikit-Learn

Honors & Awards

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|------|---|-------------------------------|
| 2021 | Silver Prize , CTE ML Hackathon | Goa, India |
| 2020 | 100 percentile , MHT-CET | Mumbai, India |
| 2017 | Silver Medal , Dr. Homi Bhabha Balvaidnyanik Competition | Mumbai, India |

Committees

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|------|---|----------------------------|
| 2022 | Member , Society for Artificial Intelligence and Deep Learning | Goa, India |
| 2021 | Core Member , Electronics and Robotics Club | Goa, India |
| 2021 | Core Member, Life Detection , Project Kratos | Goa, India |