Soham **Chitnis**

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Summary

Currently a Pre-final year student at Birla Institute of Technology and Science,K.K Birla Goa Campus pursuing Computer Science.I have worked on Computer Vision and Reinforcement Learning projects.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

Projects

Comparative Study of Reward functions on Policy gradient *August 2021*

Code

- Conducted a comparative study on reward functions in Policy Gradient with Gaussian Distribution

Implementation of Super-Resolution ResNet(SRResNet) & Super-Resolution CNN(SRCNN) *March 2022*

Code

- Implemented *Image Super-Resolution Using Deep Convolutional Networks* & *Photo-Realistic Single Image Super-Resolution Using a Generative Adversarial Network*

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.

Research Experience

Central Electronics Engineering Research Institute (CSIR-CEERI) *Chennai,India*

Research Intern | Code *May. 2022 - Present*

- **Project:** Hyperspectral Imaging for polymer characterisation
- 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.
- **Supervisor: Dr. Madan Kumar Lakshmanan**

APPCAIR, BITS Pilani *Goa,India*

UNDERGRADUATE RESEARCHER | CODE *Feb. 2022 - May. 2022*

- **Project:** Molecule Generation using Deep Graph Generators
- Molecular data incorporated with domain knowledge using BotGNNs and this data was used to generate molecules. Molecular data was generated using Variational Graph Autoencoders.
- **Supervisor: Dr. Tirtharaj Dash**

Certifications

2022	**Deep Learning Specialization**, DeepLearing.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, Julia
- **Toolkits:** Numpy, Scipy, OpenCV, PyTorch, Tensorflow, Keras, Matplotlib, Pandas, Scikit-Learn

Honors & Awards

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

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*