Drishti **Bhasin**

Machine Learning · Open Source

☐ (+91) 7347012180 | ✉ drishtibhasin52@gmail.com | 🏠 www.dbhasin1.github.io | 🐙 Dbhasin1 | 💼 drishti-bhasin-ab07531a9

Education

Indian Institute of Technology, Roorkee _Uttarakhand, India_
B.Tech. in Mechanical Engineering _July. 2019 - July. 2023_
- Cumulative Grade Point Average, CGPA: 8.67/10

Skills

Programming Python, C, C++, Cuda, HTML, CSS, Shell Scripting, LaTeX
Frameworks PyTorch, Keras, Tensorflow, NumPy, SciPy
Utilities git, zsh, vim
Languages English, Hindi, Punjabi

Experience   hyperref

NumPy, Quansight Labs _Austin, Texas_
Research Intern _July. 2021 - Sept. 2021_
- Conducted research on the ethical consequences of building Deep Learning Models and the utility of NumPy in building these models without the use of any framework.
- Built prominent NLP architectures using pure Python and NumPy to perform data analysis on a socially relevant and ethically procured dataset
- Work was published in the form of a tutorial on the official website of NumPy (see tutorial)

PyTorch, Quansight Labs _Austin, Texas_
Software Development Intern _Jan. 2022 - March. 2022_
- Worked on the Data API Standardization
- See contributions to PyTorch

Multimodal Digital Media Analysis Lab (Dr. Rajiv Ratn Shah) _IIIT Delhi, India_
Research Intern _Feb. 2021 - Present_
- Developed a method for facial image retrieval through relevance feedback using contrastive learning.
- Designed a user friendly web interface for this algorithm to be used by a metropolitan police department.
- Initial work accepted at AAAI'22 as a student abstract and submitted a full paper at IJCAI'22.

Declare Lab (Dr. Soujanya Poria) _SUTD, Singapore_
Research Intern _Jan. 2022 - Present_
- My work focuses on making Discriminative Natural Language Infilling more robust The main task.
- Experimented with generating semantically similar correct and incorrect options for masked sentences within commonsense stories and natural dialogue datasets and to make it as hard as possible for state-of-the-art NLP models to differentiate between the correct and incorrect options.

Projects

Machine Learning assisted evolutionary optimization _India_
IIT Roorkee _Jan. 2022 - April. 2022_
- We analyse the suitability of machine learning algorithms to generate new solutions that are potentially more converged and/or more diverse in multi-objective optimization.
- We aim to isolate the parameters used by these optimizers and design a suitable adaptation function to adapt them on the fly, removing any prior fixations.
- Worked on making the hyperparameters adaptive by adopting bayesian optimization.

Global Pandemic Response Challenge _India_
IISc Bangalore _Nov. 2020 - Feb. 2021_
- Under the guidance of Dr. Debasish Ghose, was the member of a team that worked on building a Covid cases predictor using LSTMs and time-series and a prescriptor model using an encoder-decoder architecture and Genetic Algorithms like NEAT.
- Presented our work in the Global Pandemic Response Challenge organized by Xprize.

Logo Detection and Analysis   *India*

Aries, IIT Roorkee   *Sept. 2020 - Nov. 2020*

- To detect which brands are being advertised during a an IPL match by detecting their respective logos.
- Collected a dataset containing on image for each brand for approximately 20,000 brands using a python web scraper. Ranking based on Cosine similarity was used between the detected logos and this dataset to find out what brand the logo belonged to.

Consulting Projects   *India*

Share, IIT Roorkee   *March. 2020 - Oct. 2020*

- Prepared a case study on How the Indian government can leverage technology to become more effective?"
- Prepared a case study on How Health technology will change the Health sector in India?"
- Performed data analysis of the marketing campaigns by Google and Facebook
- Worked in collaboration with the Start-Up Loopworm to do market surveys and data analysis of the Chitosan Market

Honors & Awards

2022	**Finalist**, KPMG Ideation Challenge		*India*
2021	**Winner**, Chanakya UG Fellowship		*India*
2021	**Winner**, Uber She++		*India*
2020	**Finalist**, Global Pandemic Response Challenge		*International*
2019	**Top 0.1%**, Jee Advanced		*India*

Relevant Coursework

Undergraduate   *India*

ML/DL/NLP/Vision   *2019 - Present*

- CS 229: Machine Learning
- CS 224n: Natural Language Processing with Deep Learning
- Reinforcement Learning by Deepmind X UCL
- UMass CS685 (Advanced NLP)
- MIT RES.6-012 Introduction to Probability
- Economics

Publications   hyperref

Contrastive Personalization Approach to Suspect Identification   *IIIT Delhi, IIT Roorkee*

Devansh Gupta*, Drishti Bhasin*, Sarthak Bhagat, Shagun Uppal, Ponnurangam Kumaraguru, Rajiv Ratn Shah   *Feb. 2022*

- accepted in 36th Association for the Advancement of Artificial Intelligence (AAAI'22) Student Abstract, 2021 (see paper)

Position of Responsibilities

2021	**Senior Member**, Data Science Group	*IIT Roorkee*
2021	**Joint Secretary**, Artificial Intelligence and Electronics Society	*IIT Roorkee*
2020	**Senior Member**, Share (Global Economy)	*IIT Roorkee*
2021	**Volunteer**, Qagaar - queer and gender support group	*IIT Roorkee*
2021	**Joint Secretary**, Quizzing Section	*IIT Roorkee*
2020	**Volunteer**, National Service Scheme (Ngo, Relations and Sponsorships	*IIT Roorkee*