Nishant Rajadhyaksha

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Research Interests: Generative Modelling, Geometric Data Processing.

EDUCATION

K.J. Somaiya College of Engineering   *2020-2024*
B. Tech Computer Engineering GPA: **9.51**/10 (6th Sem)

PUBLICATIONS/PRE-PRINTS

1. **Dif-GSR: Diffusion based Graph Super-Resolution with Applications -
   to Connectomics.**   [code]|[paper]
   Nishant Rajadhyaksha, Dr. Islem Rekik.
   PRIME-MICCAI 2023

2. **Graph Contrastive Learning for Multi-Omics Data**   [code]|[paper]
   Nishant Rajadhyaksha, Aarushi Chitkara.
   Arxiv(Pre-print)

3. **A Graphical Approach For Brain Haemorrhage Segmentation**   [code]|[paper]
   *Dr. Ninad Mehendale, Pragya Gupta, **Nishant Rajadhyaksha**, Ansh Dagha,*
   Aditi Paretkar, Tanmay Mishra, Mihir Hundiwala, Sakshi Chavan.
   Arxiv(Pre-print)

4. **TLA: Twitter Linguistic Analysis**   [code]|[paper]
   Tushar Sarkar, Nishant Rajadhyaksha
   International Journal of Computer Sciences and Engineering, 2021

5. **Modelling Veracity of Football Player Trade Rumours on Twitter Using Naive Bayes –
   Algorithm**   [paper]
   Nishant Rajadhyaksha
   2021 International Conference on Artificial Intelligence and Machine Vision (AIMV)

RESEARCH/WORK EXPERIENCE

Visiting Researcher - Richardson Labs, Queens University   June 2023 - Present
Advisor: Dr Kathryn Tryshkin, Dr Neil Renwick   *Kingston, Ontario Canada*

- Received the MITACS-Globalink Scholarship to work on a project -
  relating to cancer genomics and graph neural networks.
- Modelling cancerous RNA molecular target networks as bipartite graphs.
- Identifying the most important RNA molecules by using explanations -
  produced by GNNExplainer.

Research Intern – Basira Labs   January 2023 – June 2023
Advisor: Dr. Islem Rekik (Imperial College London)   *Basira labs, Imperial College London*

- Proposed a novel diffusion-based approach for super-resolving connectomes.
- Beats previous SOTA for brain graph super-resolution.
- Accepted as a PRIME workshop paper at MICCAI 2023.
- Published in PRIME 2023 Springer LNCS Proceedings.

Integrating remote sensing with deep learning.   April 2022 – May 2023
Guide: Prof. Mansi Kambli (KJSCE)   *KJSCE, Mumbai*

- Used TorchGeo to develop a segmentation algorithm to -
  segment sugarcane crops in remote sensing data.

NLP/Python Developer - Mettler Toldeo   January 2022 – June 2022
Guide: Chetan Dhawan (Business Developer-Mettler Toledo)   *Mettler Toledo, Mumbai*

- Used NLP algorithms to finetune Microsoft's LayoutLMv2 to extract - relevant information from invoices.
- Developed different Python programs to automate tasks relating to - database retrievals.

Backend Developer - Aloyt   April 2021 – June 2021
Guide: Kunal Dixit – (Developer Aloyt)   Aloyt, Mumbai
- Worked on creating a robust backend for a website using Django.

HONORS AND AWARDS

- Received the MITACS Globalink award.   (2023)
  - Received funding to perform research at a Canadian university.
  - Funding of $15000 to pursue graduate studies at a recognized - Canadian university.
- Kaggle Notebooks Expert   (2022)
  - Highest Global Rank: 1805 out of 3,01,064.

POSITIONS OF RESPONSIBILITY

- **Head** - DataZen (Data Science Council of Somaiya Vidyavihar University)   (2022-2023)
  - Served a student body of around 40,000 students.
  - Conducted various workshops with a research-based theme.

- **Technical Team** - DataZen   (2021-2022)
  - Helped with organising the technical aspects of workshops.
  - Handle any technical queries posed by the student body.

- **Technical Team** - CSI (Computer Society of India KJSCE chapter)   (2021-2022)
  - Conducted the regional selections for the Smart India Hackathon(SIH).
  - Was responsible for conducting technical workshops.

TECHNICAL SKILLS

Languages   Python, C++, C, Java, HTML/CSS SQL
Tools and Libraries   PyTorch, torch-geometric, OpenCV, Git, LATEX, Django

BLOG

Title: A Gentle Introduction To Graph Spectral Filtering   [blog]
Author: *Nishant Rajadhyaksha*
Publisher: Medium

EXTRACURRICULAR ACTIVITIES

- Represented KJ. Somaiya College of Engineering's football team for the years 2022 and 2023.
- Participated in Thane Division Football Association – 1st Division Football (7th tier of Indian Football Pyramid.) for Envision F.A