Adarsh **Kappiyath**

Pre-Doctoral Research Fellow

Athira Nivas, Kannur, Kerala, 670501, India

(+91) 80-7838-6079 | kadarsh22@gmail.com | kadarsh22 | kadarsh22

Education

Indian Institute of Space Science and Technology(IIST) — *Kerala, India*

M.Tech in Machine Learning and Computing — *July 2017 - May 2019*

- CGPA: 8.39/10.00

Amrita School of Engineering — *Kerala, India*

B.Tech in Electrical and Electronics Engineering — *August 2012 - May 2016*

- CGPA: 8.53/10.00

P.E.S Vidyalaya — *Kerala, India*

Higher Secondary — *June 2010 - May 2012*

- Percentage: 88%

Publications

Conference Proceedings

* indicates equal contributions

[1] **A. Kappiyath***, S. V. Sreelatha*, and S. Sumitra. "Self-Supervised Enhancement of Latent Discovery in GANs". In: *Proceedings of the AAAI Conference on Artificial Intelligence* 36.7 (June 2022), pp. 7078–7086. DOI: 10.1609/aaai.v36i7.20667.

[2] **A. Kappiyath***, V. S. Silpa*, and S. S. "Disentanglement-based Active Learning". In: *2021 International Joint Conference on Neural Networks (IJCNN)*. 2021, pp. 1–8. DOI: 10.1109/IJCNN52387.2021.9534033.

Workshop

- **A.Kappiyath**, A. Garg, R. Hebbalaguppe, A.P Prathosh "Adaptable Latent subspace learning for StyleGAN without forgetting", CLVISION CVPR Workshop 2023, Link. (Also, Under review in a top-tier conference)

Work Experience

TCS Research — *New Delhi, India*

Pre-Doctoral Fellow — *May. 2022 - Present*

- **Adaptable Latent subspace learning for StyleGAN without forgetting**: We propose a generative continual learning scheme for one of the most popular generative models, namely, the StyleGAN. Many studies have shown that the latent space of a StyleGAN is very versatile in that it can 'embed' data from distributions out of its training. In this paper, we propose to leverage this property to learn to sample from a stream of datasets, facilitating lifelong learning without forgetting. Specifically, given a StyleGAN trained on a base task, we propose to learn a set of dictionary vectors on its latent space, one each for a novel unseen task (or dataset).

Flytxt Mobile Solutions — *Kerala, India*

Deputy Manager (Data Scientist), R&D — *Jun. 2019 - April 2022*

- Prototyped a Knowledge Graph embedding model for vectorizing the product catalogue of our clients.
- Responsible for productization of Explainable AI feature in our SaaS product Robo-X.
- Developed Multivariate Adaptive Testing for faster identification of winning variant with minimal opportunity loss.
- Responsible for design, development, and deployment of machine learning pipeline for Campaign optimization model used in Robo-X.
- Implemented several API micro-services using Flask.

Scholastic Achievements

- Secured a position within the top 5% and 10% in the National Level proctored exam on **Advanced Deep Learning** and **Deep Learning** conducted by NPTEL.
- Finalist in **Microsoft AI Challenge 2018**.

- Winner of circuit design competition conducted by ELYZIA(Electrical and Electronics Club of Amrita School of Engineering).
- 1^{st} runner up in Mars Rover Design Competition conducted at Amrita School of Engineering.
- Qualified for the finals of National Level Hybrid vehicle design competition EFFI CYCLE.

Relevant Courses

- Linear Algebra
- Probability and Statistics
- Pattern Recognition and Machine Learning
- Optimization Techniques
- Deep Learning

Other Projects

- Improving Robustness of image classifiers: This project aims to explore methods for identification and mitigation of biases in the image classifiers to improve its robustness *(In Progress)*.
- Answer selection using Deep Learning Techniques: Given a question and a set of candidate answers, this project aims to identify the candidate that answers the question correctly. Various methods such as a Siamese network using CNNs, Siamese network with attention, compare—aggregate architecture along with various word embedding algorithms were implemented and evaluated. This project was done as part of the Microsoft AI Challenge 2018.
- Fast Charger for Lead Acid Battery: In this project, we developed a fast-charging circuit for lead batteries with due consideration to battery health monitored via temperature change of the battery.

Skills

Programming Languages	Python
Operating Systems	Ubuntu, Windows
Packages/Technologies/Frameworks	PyTorch, Weights & Biases, Scikit-learn,LaTeX, Hyperopt, PyCharm.

References

- **Dr. Prathosh A.P**, Assistant Professor, Department of Electrical Communication Engineering, Indian Institute of Science (IISc), Bengaluru, India. Link
- **Dr. S. Sumitra**, Professor, Department of Mathematics, Indian Institute of Space Science and Technology, Trivandrum, Kerala. Link