

SILPA VADAKKEEVEETIL SREELATHA

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EDUCATION

ELLIS Ph.D Student June, 2023 - Present

CVSSP, University of Surrey, United Kingdom

Supervised by: Dr. Anjan Dutta, Dr. Muhammad Rana, Prof. Serge Belongie

M.Tech in Machine Learning and Computing July, 2017 - June, 2019

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

CGPA: 9.31/10.00

B.Tech in Computer Science and Engineering August, 2012 - May, 2016

Government Engineering College, Sreekrishnapuram, Kerala, India

CGPA: 7.85/10.00

Higher Secondary March, 2011 - March, 2012

St. Dominics Convent English Medium School, Kerala, India

Percentage: : 93.4%

PUBLICATIONS

* indicates equal contributions

boldface indicates that Silpa Vadakkeeveetil Sreelatha, S. V. Sreelatha, V. S. Silpa and S. Vadakkeeveetil Sreelatha are the same person.

- [1] **V. S. Silpa**^{*}, A. Kappiyath^{*}, A. Chaudhuri, and A. Dutta. “DeNetDM : Debiasing by Network Depth Modulation”. In: *NeurIPS*. 2024.
- [2] 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*. 2022. DOI: [10.1609/aaai.v36i7.20667](https://doi.org/10.1609/aaai.v36i7.20667).
- [3] A. Kappiyath^{*}, **V. S. Silpa**^{*}, and S. S. “Disentanglement based Active Learning”. In: *2021 International Joint Conference on Neural Networks (IJCNN)*. 2021. DOI: [10.1109/IJCNN52387.2021.9534033](https://doi.org/10.1109/IJCNN52387.2021.9534033).
- [4] K. Kalra, B. Kurma, **S. Vadakkeeveetil Sreelatha**, M. Patwardhan, and S. Karande. “Understanding Advertisements with BERT”. In: *Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics*. Association for Computational Linguistics, 2020. DOI: [10.18653/v1/2020.acl-main.674](https://doi.org/10.18653/v1/2020.acl-main.674).

RESEARCH EXPERIENCE

Independent Researcher June 2022 - May 2023

- Worked on a project to explore methods for identifying and mitigating biases in the image classifiers to improve their robustness.

Researcher July 2019 - April 2022

Tata Research Development and Design Centre (Deep Learning and AI, TCS Research), Pune

- Developed a BERT-based model that achieved state-of-the-art results on the CVPR 2018 challenge dataset on the Advertisement understanding task. My contribution in this project was to understand and implement various extensions of BERT, such as Siamese BERT, LXMERT, and ViLBERT, that learn cross-modality representations and perform result analysis and ablation studies on the dataset.
- Contributed to various projects that applied techniques such as Meta-learning, Data-free Knowledge Distillation, Physics-informed neural networks to business problems.

RESEARCH PRESENTATIONS AND TALKS

- Poster presentation on Disentanglement-based Active Learning, New in ML workshop, which was held in conjunction with NeurIPS in 2019.
- Poster presentation on Self-Supervised Enhancement of Latent Discovery in GANs, [NeurIPS workshop on Controllable Generative Modelling in Language and Vision, 2021](#).
- Talk on **Variants of BERT for Cross-modality Representation Learning**, TCS Research, 2020.
- Talk on **Techniques for Data-free Knowledge Distillation**, TCS Research, 2021.

SCHOLASTIC ACHIEVEMENTS AND TITLES HELD

- Finalist in **Microsoft AI Challenge 2018**.
- Admitted to the M.Tech program at IIST with an acceptance rate of 4%.
- Ranked 1349 among 96878 candidates appeared for All India **Graduate Aptitude Test in Engineering (GATE), 2017**.
- Moderator of **Gate Overflow** - Most popular [website](#) for GATE examination in Computer Science & Engineering with over 23,000 members and all necessary contents.
- Former member of **IEEE** (Institute of Electrical and Electronics Engineers).

OTHER RELEVANT PROJECTS

Active Learning for Deep Learning models using GAN based approaches July 2018 - May 2019
M.Tech Thesis guided by Dr. S Sumitra and Dr. Raju K George

- The aim was to propose a novel GAN-based approach for active learning in image classification that drastically reduces the human labeling burden.

Data-Free Knowledge Distillation November 2020 - March 2021
Guided by Dr. Shirish Kharande

- Given a pretrained model, our aim was to transfer the knowledge to a light-weight student model. However, we did not have access to customer data on which the pretrained models were trained due to privacy concerns.

Meta-learning for Car Damage Classification April 2020 - October 2020
Guided by Anand Sriraman

- Given a Car damage dataset with more than 50 classes with very less number of datapoints per class, our aim was to learn a binary meta-learner for car damage classification task.

Answer selection using Deep Learning Techniques March 2018 - May 2018
Guided by Dr. S Sumitra

- Given a question and a set of candidate answers, this project aimed at identifying which of the candidates answered the question correctly using architectures like Siamese CNN networks and attention networks.

Online Dispatch Management System November 2016 - April 2016
Guided by Dr. Reghu Raj P C

- Implemented an Online Dispatch Management System at the Vikram Sarabhai Space Centre, ISRO, Trivandrum.

SKILLS

Programming Languages	Python, C
Operating System	Ubuntu, Windows
Tools/Technologies/Frameworks	PyTorch, Weights & Biases, VS Code, PyCharm

REFERENCES

- [Dr. Anjan Dutta](#), Senior Lecturer, Centre for Vision, Speech and Signal Processing (CVSSP), University of Surrey, United Kingdom
E-mail ID : anjan.dutta@surrey.ac.uk
- [Dr. S Sumitra](#), Associate Professor, Department of Mathematics, Indian Institute of Space Science and Technology, Trivandrum, India.
E-mail ID : sumitra@iist.ac.in
- [Dr. Manasi Patwardhan](#), Senior Scientist, TCS Research, Pune, India.
E-mail ID : manasi.patwardhan@tcs.com