SAIROOP BODEPUDI

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Education

Georgia Institute of Technology, USA *August 2022 - December 2023*
Master of Science in Computer Science GPA: **4.0/4.0**

Indian Institute of Technology (IIT) Palakkad, India *July 2018 - May 2022*
Bachelor of Technology in Computer Science and Engineering CGPA: **9.38/10**

Technical Skills

Programming languages: Java, JavaScript, C, C++, Python, C#, SML.
Frameworks: .NET, PyTorch, TensorFlow, Django, GitHub.
Machine Learning: Computer vision, model pruning, natural language processing, transformers, reinforcement learning, learning from demonstration, knowledge graphs, explainable artificial intelligence, medical imaging.

Work Experience

Georgia Institute of Technology *August 2022 - Present*

- Serve as the graduate teaching assistant for the CS 6601 Artificial Intelligence course under Prof. Thad Starner (Spring 2023), and previously for the CS 7641 Machine Learning course under Prof. Charles Isbell (Fall 2022).
- Guide students in the interpretation of course subject, assist in the preparation of learning materials, and grade papers.

ETH Zürich, Switzerland *April 2021 - October 2021*

- Worked as a research intern with Prof. Mrinmaya Sachan on An improved case based reasoning system for knowledge graphs which involved using case based reasoning systems and graph attention networks for the knowledge base completion task.
- Improved model calibration by **10 times** on path based methods using selective prediction and temperature scaling.

Projects

Transfer Learning for Learning from demonstration *August 2022 - December 2022*

- Developed an efficient transfer learning algorithm for learning from demonstration using behavior cloning with the help of neural adapters on the overcooked game and reduced required training steps by **44**%.

Beamforming in ultrasound imaging using graph neural networks *August 2021 - May 2022*

- Worked with Prof. Mahesh R Panicker (IIT Palakkad, India) & Prof. Abhilash H (University of Alberta, Canada) for creating efficient beamforming algorithms important in medical ultrasound imaging and diagnostics.
- Modelled the relationships between different sensors using graphs and their importance using entropy and graph attention networks.

Meet.me : Remote collaborative workplace application *August 2021 - December 2021*

- Built the summary logic module for the Meet.me application to summarize the chats and prioritize content for discussion analytics using natural language processing techniques such as lemmatization, stemming (Porter Stemmer), etc. [Github]

Patch based neural network transformation for ultrasound imaging *January 2021 - May 2021*

- Constructed a deep learning based algorithm for approximation of the best image construction pipeline (MVDR i.e Minimum Variance Distortionless Response) using the most efficient Delay and Sum pipeline (parallelizable on a GPU).
- Full paper available at https://arxiv.org/abs/2110.10220

Computer vision tools for evaluating compliance of COVID protocols *May 2020 - July 2020*

- Built an end-to-end face mask detection algorithm with **3 times** reduced inference time and **5 times** reduced memory requirements, along with the extension of OpenPose to evaluate the safety during the COVID-19 pandemic.

Extracurricular activities

Club Mentor: Mentor in the Data Analytics Club at IIT Palakkad.
Class representative : For the Computer Science and Engineering batch of 2018 at IIT Palakkad.
Social Service : Volunteered for cleaning villages and towns as part of the National Service Scheme (NSS).