Ashish **Ramayee Asokan**

Pre-Doctoral Researcher · Indian Institute of Science

493, 12th Main, 23rd Cross, Sector 7, HSR Layout, Bangalore-560102

✉ ashish.ramayee@gmail.com | 🏠 ashishasokan.github.io | AshishAsokan | ashishasokan | 🎓 Ashish Asokan

Education

PES University *Bangalore, India*

B.Tech in Computer Science and Engineering (GPA: 9.52/10, *Top 3%*) *Aug. 2018 - Sept. 2022*

- Received Prof. CNR Rao and Prof. MRD Scholarships for Academic Performance
- Relevant Coursework: Topics in Deep Learning, Information Retrieval, Big Data, Machine Intelligence, Linear Algebra, Data Analytics

Publications (* indicates equal contribution)

Workshop Proceedings

Distilling from Vision-Language Models for Improved OOD Generalization in Vision Tasks
Sravanti Addepalli*, Ashish Ramayee Asokan*, Lakshay Sharma, R Venkatesh Babu
CVPR Workshop *on Open-Domain Reasoning Under Multi-Modal Settings* **(ODRUM)**, 2023

Conference Proceedings

Aligning Non-Causal Factors for Transformer-based Source-Free Domain Adaptation
Sunandini Sanyal*, Ashish Ramayee Asokan*, Suvaansh Bhambri, Pradyumna YM, Akshay Kulkarni, Jogendra Kundu, R Venkatesh Babu
IEEE/CVF Winter Conference on Applications of Computer Vision **(WACV)**, 2024

Domain-Specificity Inducing Transformers for Source-Free Domain Adaptation
Sunandini Sanyal*, Ashish Ramayee Asokan*, Suvaansh Bhambri*, Akshay Kulkarni, Jogendra Nath Kundu, R Venkatesh Babu
IEEE/CVF International Conference on Computer Vision **(ICCV)**, 2023

Interpretability for multimodal emotion recognition using concept activation vectors
Ashish Ramayee Asokan, Nidarshan Kumar, Anirudh V Ragam, Shylaja Sharath
IEEE International Joint Conference on Neural Networks **(IJCNN)**, 2022

Skills

Programming	Python, C/C++, C#, JAVA, LaTeX, MATLAB
Machine Learning	PyTorch, Keras, Tensorflow, Tensorflow Lite, OpenCV, W&B
Big Data Analytics	Hadoop, Spark, Spark Streaming

Experience

Vision and AI Lab, Indian Institute of Science *Bangalore, India*

Pre-Doctoral Researcher (Advised by Prof. Venkatesh Babu) *May. 2022 - Present*

- Working on Domain Adaptation (ICCV'23, WACV'24), Domain Generalization (CVPRW'23) and Long-Tail Learning.
- Led a research collaboration with **Boeing** on Airport Ground Management Analytics.
- Supervised a team of 3 interns who contributed to my projects.

Intel Corporation *Bangalore, India*

Research Intern - Vertical Solutions and Services Group *Aug. 2021 - Jan. 2022*

- Worked on *Continual Learning* to mitigate *Catastrophic Forgetting* in Neural Networks
- Explored *Federated Learning*, *Network Pruning*, *Hierarchical Learning* and *Regularization methods*.

Niramai Health Analytix *Bangalore, India*

Undergraduate ML Intern *Mar. 2021 - May 2021*

- Worked on XraySetu - AI driven COVID intervention through WhatsApp
- Developed a chatbot for XraySetu with *Kaleyra* and *WhatsApp Business APIs* in Python
- Implemented X-Ray classification in OpenCV for images received through the chatbot

GMAC Intelligence *Bangalore, India*

Undergraduate ML Intern *Sept. 2020 - Apr. 2022*

- Worked on Face Recognition for Android devices using Tensorflow Lite.
- Worked on Real-Time Activity Recognition for surveillance using human pose data.

Center for Data Science and Machine Learning   *Bangalore, India*

Summer Research Intern, PES University (Advised by Prof. Shylaja Sharath)   *May. 2019 - Jul. 2019*

- Worked on *Person Identification* using *Human Gait Information*.
- Implemented a complete *Gait Recognition* algorithm for *Nighttime Surveillance*.

Projects

IMER: Interpretability for Multimodal Emotion Recognition   *Bangalore, India*

Final year Capstone Project, Advisor: Dr. Shylaja Sharath   *Aug. 2021 - Jan. 2022*

- Explored Interpretability for Multimodal Emotion Recognition using Concept Activation Vectors (CAVs).
- Proposed *novel human-understandable concepts* for the interpretability of emotion recognition models.
- Evaluated the proposed concepts at multiple layers of the BC-LSTM network.

⌂ Fourier Feature Mapping Networks   *Bangalore, India*

Personal Project - Paper Implementation   *July. 2020*

- Implemented Fourier Feature Mapping for Coordinate-based MLP's in Tensorflow.
- This was a part of Paper Projects, a paper reproducibility initiative by MadeWithML

⌂ Semantic Segmentation using ENet   *Bangalore, India*

Personal Project - Paper Implementation   *July. 2020*

- Implemented efficient semantic segmentation using the ENet architecture.
- Link to paper : Semantic Segmentation using ENet

⌂ FPL Analytics using Streaming Spark   *Bangalore, India*

Course project for Big Data   *Nov. 2020 - Dec. 2020*

- Developed a Real Time Analytics Application for FPL data using Streaming Spark
- Computed various stats for each player on a per-match basis where the data was streamed match-wise
- Tools used: PySpark, MlLib, Hadoop

⌂ Infrared Gait Recognition   *Bangalore, India*

Summer Research Project - Mentor: Dr. Shylaja Sharath   *Jun. 2019 - Dec. 2019*

- Developed a gait recognition algorithm for nighttime surveillance using Point Light Animation.
- Trained the gait recognition model on infrared videos from the *CASIA Dataset*.
- Tools used: Numpy, OpenCV, Scipy

Academic Service

Reviewer	AISTATS 2024, CVPR 2024
Sub-Reviewer	ICLR 2024, NeurIPS 2023, ICCV 2023
Program Committee	AI-ML Systems 2023

Honors & Awards

2023	**Kotak IISc AI-ML Fellowship**, Pre-Doctoral Fellowship	*Bangalore, India*
2018-22	**Prof. CNR Rao Scholarship**, Awarded for being among the top 2% performers of the CS Dept.	*Bangalore, India*
2018-22	**Prof. MRD Scholarship**, Awarded for being among the top 20% performers of the CS Dept.	*Bangalore, India*

Professional Development

Deep Learning Specialization   *Online*

deeplearning.ai   *June 2020 - July 2020*

- A five course Specialization on Deep Learning with *Andrew Ng* as the instructor
- Topics Covered: CNNs, Sequence Models, Hyperparameter Tuning, Structuring ML Projects

Machine Learning   *Online*

Coursera   *April 2020 - May 2020*

- A course offered by Stanford University covering the fundamentals of Machine Learning
- Topics Covered: Regression, Artificial Neural Networks, SVM, Dimensionality Reduction