# Ashish **Ramayee Asokan**


Master of Science in ML @ Carnegie Mellon University

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## 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

**Carnegie Mellon University** — *Pittsburgh, PA*

Master of Science in Machine Learning *(MSML)* — *Aug. 2024 - Dec. 2025*

- Relevant Coursework: Advanced Intro. to ML, Representation Learning

## 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

Leveraging Vision-Language Models for Improving Domain Generalization in Image Classification
Sravanti Addepalli*, Ashish Ramayee Asokan*, Lakshay Sharma, R Venkatesh Babu
*IEEE/CVF Computer Vision and Pattern Recognition Conference* ***(CVPR)***, 2024

DeiT-LT: Distillation Strikes Back for Vision Transformer Training on Long-Tailed Datasets
Harsh Rangwani, Pradipto Mondal, Mayank Mishra, Ashish Ramayee Asokan, R Venkatesh Babu
*IEEE/CVF Computer Vision and Pattern Recognition Conference* ***(CVPR)***, 2024

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

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|---|---|
| **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*

Predoctoral Fellow (Advised by Prof. Venkatesh Babu) — *May 2022 - July 2024*

- Worked on Domain Adaptation (ICCV'23, WACV'24), Domain Generalization (CVPRW'23, CVPR'24) and Long-Tail Learning (CVPR'24).
- 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*.

# 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

# Academic Service

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

# Honors & Awards

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| 2024 | **Outstanding Reviewer Award, CVPR 2024**, Awarded to the Top 2% reviewers at CVPR 2024 | *Seattle, US* |
| 2023 | **Kotak IISc AI-ML Research Fellowship**, Competitive Research Fellowship at IISc, Bangalore | *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