

Ashish Ramayee Asokan

PRE-DOCTORAL RESEARCHER · INDIAN INSTITUTE OF SCIENCE

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Education

PES University

B.TECH IN COMPUTER SCIENCE AND ENGINEERING (GPA: 9.52/10, Top 3%)

Bangalore, India

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

SUMMER RESEARCH INTERN, PES UNIVERSITY (ADVISED BY PROF. SHYLAJA SHARATH)

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

Bangalore, India

May. 2019 - Jul. 2019

Projects

IMER: Interpretability for Multimodal Emotion Recognition

FINAL YEAR CAPSTONE PROJECT, ADVISOR: DR. SHYLAJA SHARATH

- 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.

Bangalore, India

Aug. 2021 - Jan. 2022

Fourier Feature Mapping Networks

PERSONAL PROJECT - PAPER IMPLEMENTATION

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

Bangalore, India

July. 2020

Semantic Segmentation using ENet

PERSONAL PROJECT - PAPER IMPLEMENTATION

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

Bangalore, India

July. 2020

FPL Analytics using Streaming Spark

COURSE PROJECT FOR BIG DATA

- 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

Bangalore, India

Nov. 2020 - Dec. 2020

Infrared Gait Recognition

SUMMER RESEARCH PROJECT - MENTOR: DR. SHYLAJA SHARATH

- 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

Bangalore, India

Jun. 2019 - Dec. 2019

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

2018-22 **Prof. CNR Rao Scholarship**, Awarded for being among the top 2% performers of the CS Dept.

2018-22 **Prof. MRD Scholarship**, Awarded for being among the top 20% performers of the CS Dept.

Bangalore, India

Bangalore, India

Bangalore, India

Professional Development

Deep Learning Specialization

DEEPLARNING.AI

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

Online

June 2020 - July 2020

Machine Learning

COURSERA

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

Online

April 2020 - May 2020