

# Jameel Hassan Abdul Samadh

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## Education

**MOHAMED BIN ZAYED UNIVERSITY OF ARTIFICIAL INTELLIGENCE, UAE**  
MSc COMPUTER VISION Aug 22' - Jun 24'  
CGPA 3.94/4.0

Thesis topic: *Test-Time Adaptation of Foundational Vision-Language models.*  
Supervised by [Prof Salman Khan](#) and [Prof Fahad Khan](#)

**UNIVERSITY OF PERADENIYA, Sri Lanka**  
BSC. ENGINEERING (HONS) - July 2020  
Electrical & Electronics Engineering  
CGPA 3.65/4.0 (Top 10%)

Key areas:

- Signal Processing
- Probability and Communication Theory
- Optimization and Algorithms

## Projects

### PROMPT ALIGN: TEST TIME ADAPTATION

- Designed a zero-shot test-time prompt learning strategy using distribution alignment to improve image classification. *NeurIPS '23*

### LANGUAGE SUPERVISION FOR 3D SEGMENTATION | 2023 | [Github Link](#)

- Analyzed and showed the potential of language supervision using CLIP in 3D point-cloud instance segmentation including the open-world setting.

### YOLOngv8 | 2023 | [Github Link](#)

- Adapting YOLOv8 for long tail object detection using prototype based contrastive loss with dynamic calibration.

### CLIP ADVERSARY | 2022 | [Github Link](#)

- Designed an adversarial attack on the CLIP model dropping model accuracy to 50% on CIFAR10, CIFAR100 & Caltech101.

### POSE ESTIMATION | 2022 | [Github Link](#)

- Designed a lightweight pose estimation model improving the stacked hourglass model.

## Projects (contd...)

### VISUALIZING RNNs | 2021 | [Github Link](#)

- Visualizing and analyzing neuron activations in RNNs. Analyzed specialized neuron activations.

## Interests

Computer Vision | Machine Learning | Deep Learning | Vision-Language Models | Self/Semi Supervised Learning

## Experiences

### RESEARCH INTERN | [INCEPTION INSTITUTE OF AI](#) | (May 2023 - Aug 2023)

- Blind Face Super Resolution using VQGAN, resolving edge case problems such as viewpoint change and closed eyes.
- Extending face super resolution to videos.

### MACHINE LEARNING ENG. | [VeracityAI](#) | (Oct 2021 - May 2022)

- Designing Machine Learning algorithms to automate the vehicle insurance claiming process.
- Designed a car localization model using Mask RCNN for image segmentation to improve damage detection model TP rate by 12%.
- Researched and analyzed on sampling strategies and curriculum learning approach for the training process time reduction.

### RESEARCH ASSOCIATE | UNIV. OF PERADENIYA | FACULTY OF ENG. | (Aug 2020 - Sep 2021)

- Designed a computer vision framework to detect humans, human interactions & masks to provide a threat assessment for COVID-19 from CCTV footage.
- Designed an optimization algorithm and a sensitivity matrix method to reduce voltage violation in electricity grid due to high solar penetration with 50% efficiency in time.

## Publications ([gScholar](#))

- **AS Jameel Hassan**, Hanan Gani, Noor Hussein, Uzair Khattak, Muzammal Naseer, Salman Khan, Fahad Khan, “Align Your Prompts: Test-Time Prompting with Distribution Alignment for Zero-Shot Generalization”  
NeurIPS 2023, Accepted [C]
- **AS Jameel Hassan\***, Gihan Jayatilaka\*, Suren Sritharan\* et al, “Holistic Interpretation of Public Scenes Using Computer Vision and Temporal Graphs to Identify Social Distancing Violations”.  
Applied Sciences, MDPI  
[Published](#) [J]
- **AS Jameel Hassan**, Suren Sritharan, Gihan Jayatilaka et al. “Hands Off: A Handshake Interaction Detection and Localization Model for COVID-19 Threat Control”, 2021 IEEE ICIIS  
[Published](#) [C]
- Umar Marikkar, **A. S. Jameel Hassan**, Mihitha Maithripala et al. “Modified autoregressive technique for univariate time series prediction of solar irradiance”, 2020 IEEE ICIIS  
[Published](#) [C]
- **A. S. Jameel Hassan\***, Umar Marikkar\*, et al. “A Sensitivity Matrix Approach for Centralized Active Reactive Power Management of PV Systems integrated LV network”, Energies journal, MDPI  
[Published](#) [J]

[J]: Journal

[C]: Conference

## Technical Skills

Python | Pytorch | Tensorflow | OpenCV | C |  
MATLAB | AWS | Data Structures & Algorithms

## Awards & Achievements

- Full Scholarship Masters student at Mohamed Bin Zayed University of Artificial Intelligence.

## Leadership & Soft Skills

- Program Representative, Computer Vision Department, MBZUAI - 2022/2023
- Project Chair: Innovate to Elevate by Global Shapers Kandy - 2020
- Crew Leader: Drama Society, Faculty of Engineering, UOP - 2019
- Varsity Basketball, UOP - 2018/2019
- High School Prefect - 2013/2014

Research | Creative Writing | Event Moderation  
Trilingual: English, Tamil, Sinhala | Fretwork |

Referees available on request