Jameel Hassan Abdul Samadh

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Education

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

Thesis topic: *Test-Time Adaptation of Foundational Vision-Language models.*
Supervised by <u>*Prof Salman Khan*</u> and <u>*Prof Fahad Khan*</u>

Key areas:
- *Computer Vision and Machine Learning*
- *Parallel and Distributed Systems*

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

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 INSTANCE 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.

Interests

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

Experiences

RESEARCH INTERN | <u>INCEPTION INSTITUTE OF AI</u> | (May 2023 - Aug 2023)
- Blind Face Super Resolution using VQGAN, resolving edge case problems such as view change and closed eyes.
- Extending face super resolution to videos.

MACHINE LEARNING ENG. | <u>VeracityAI</u> | (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 to reduce the overall model training time.

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.

Leadership & Soft Skills

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

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 auto regressive 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 and Soft Skills

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

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

Awards & Achievements

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

Referees available on request