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 4.0/4.0

Key areas:
- *Multimodal learning (Vision & Text)*
- *Human & Computer Vision*
- *Machine Learning and Deep Learning*

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

Key areas:
- *Probability and Communication Theory*
- *Mathematics: Linear Algebra & Calculus*
- *Machine Intelligence*
- *Optimization and Algorithms*

Projects

CLIP ADVERSARY | 2022 |
- 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.

WORDLE SOLVER | 2022 | Github Link
- Solving the *Wordle* game using information theory. Average score of 3.4 above human average.

VISUALIZING RNNs | 2021 | Github Link
- Visualizing and analyzing neuron activations in RNNs. Analyzed specialized neuron activations.

UNDERGRAD RESEARCH PROJECT | 2020
- Designed an optimized scheduling and control algorithm to predict the power outputs of the stochastic renewable systems using a modified Autoregressive model and dispatch power optimally.

Interests

Computer Vision | Machine Learning | Deep Learning| Multimodal Learning | Self/Semi Supervised Learning

Experiences

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.

ENGINEERING INTERN | VEGA INNOVATIONS | Webpage (Feb 2019 - May 2019)
- Tested and troubleshooted the electric vehicle fast charger.
- Designed the wiring circuit and setup the hydroponic rack.

Technical Skills

Python | Pytorch | Tensorflow | OpenCV | C | MATLAB | AWS | Version Control | Linux systems | Bash | Data Structures & Algorithms

Publications ([gScholar](#))

- **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**

Referees available on request

Awards & Achievements

- **Best Practical Impact Paper** in the 16th ICIIS 2021

Online Courses
- Coursera - Stanford
  - Machine Learning
- Deep Learning specialization
- Coursera - University of Toronto
  - Introduction to self driving
  - State estimation and localization for self driving vehicles

Leadership & Soft Skills

- 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 |