Hashmat Shadab MALIK

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EDUCATION

2023 - Present	**PhD.** in COMPUTER VISION Mohamed bin Zayed University of Artificial Intelligence (MBZUAI) GPA: **3.90/4.0**, *First Class Honours.*
2021 - 2022	**Master** of Science in COMPUTER VISION Mohamed bin Zayed University of Artificial Intelligence (MBZUAI) Thesis: "Adversarial Pixel Restoration as a Pretext Task for Transferable Perturbations." GPA: **4.0/4.0**, *First Class Honours.*
2014 - 2018	**Bachelor** of Technology in ELECTRONICS AND COMMUNICATION ENGINEERING National Institute of Technology, Srinagar (NIT) Thesis: "Channel Estimation for Wireless Communication systems, using least-square method." GPA: **8.48/10.0**, *First Class Honours.*

WORK EXPERIENCE

Jan.2021 - Present	*Graduate Research Assistant* **Intelligent Visual Analytics Lab (IVAL), MBZUAI, Abu Dhabi**, UAE Working on evaluating robustness of uni-modal and multi-modal vision-based models.
Mar.2019 - Jun.2019	*Research Intern* **Robotics Research Center - IIIT Hyderabad**, India Worked on Motion segmentation and estimating depth from multiple views for autonomous navigation of cars using deep network based framework.
Jul.2018 - Mar. 2019	*Computer Vision Engineer* **Cingularity TEC India Pvt. Ltd.**, Bangalore, India Built Computer Vision Systems involving License Plate Recognition, Vehicle Recognition and Counting vehicles in malls and parking lots.
Jul.2018 - Mar. 2019	*Project Assistant* **Computational Intelligence Lab- IISc**, India Developing frameworks using deep convolutional neural networks for classification/detection of diseases in Sugarcane. Implementing models to detect different type of damages in vehicles.

PUBLICATIONS   ✆ GOOGLE SCHOLAR

ObjectCompose: Evaluating Resilience of Vision-Based Models on Object-to-Background Compositional Changes. Accepted at Asian Conference on Computer Vision (ACCV 2024-Oral, secured Best Student Paper Honorable Mention Award). [Paper] [Code]

Towards Evaluating the Robustness of Visual State Space Models (Under Review). [Paper] [Code]

On Evaluating Adversarial Robustness of Volumetric Medical Segmentation Models. Accepted at The British Machine Vision Conference (BMVC 2024). [Paper] [Code]

Adversarial Pixel Restoration as a Pretext Task for Transferable Perturbations. Accepted at The British Machine Vision Conference (BMVC 2022–Oral). [Paper] [Code]

Object Detection in Aerial Images: What Improves the Accuracy?, Accepted for WIUT-UoW Computing Conference (2022) [Paper]

Insect Pest Detection, Migration and Monitoring Using Radar and LiDAR Systems, Published in Innovative Pest Management Approaches for the 21st Century. Springer, Singapore (2020) [Paper]

Deep Learning Based Car Damage Classification and Detection, International Conference on Artificial Intelligence and Data Engineering (AIDE 2019). Published in Advances in Intelligent Systems and Computing, Springer (2020) [Paper]

Disease Recognition in Sugarcane using Deep Learning, International Conference on Artificial Intelligence and Data Engineering (AIDE 2019). Published in Advances in Intelligent Systems and Computing, Springer (2020) [Paper]

Research Interests

Intrigued by the vulnerability of deep neural networks in both i.i.d and non-i.i.d settings, I am focused on designing methods and benchmarks to expose their limitations and uncover deeper insights into their weaknesses.

Academic Service

Reviewer ECCV, BMVC, WACV

Honors and Awards

May. 2020 **MSc.** Awarded Postgraduate Research Scholarship by Mohamed bin Zayed University of Artificial Intelligence (MBZUAI) for the period of two years.

June 2018 Qualified National Level Graduate Aptitude Test in Engineering(GATE).

June 2018 Among top 15 percentile of the class of Bachelors in Electronics and Communication.

June 2014 Qualified National Level Joint Engineering Entrance(JEE) for admission into NITs.

June 2013 15th Position in the State Level Board Exam of grade XII.

Computational Skills

Python Expert Knowledge- I am extensively using python to build novel machine learning algorithms for the last few years.

Pytorch Pytorch is usually my default choice due to its dynamic nature and object-oriented graph design approach.

Keras I have used Keras with Tensorflow before and have gained decent familarity with it.

Matlab Most of my Bachelor projects have been done using Matlab.

C I scored A grades in the language in my B.Tech course.

References

Dr. Salman Khan (Primary Supervisor)
Associate Professor at the Mohamed bin Zayed University of Artificial Intelligence (MBZUAI),
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Dr. Fahad Shahbaz Khan (Secondary Supervisor)
Professor at the Mohamed bin Zayed University of Artificial Intelligence (MBZUAI),
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Dr. Muzammal Naseer
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