L-Università ta' Malta
Faculty of Information &
Communication Technology

Department
of Artificial
Intelligence

ARI5118 - Deep Learning for Computer Vision

<u>Deadline:</u> 30th May 2025
<u>Length</u>: 6 – 8 Pages, including figures and references
<u>Format</u>: IEEE Conference Paper[1]

<u>Rationale:</u>

You are expected to survey at least five (5) deep-learning computer vision techniques applied to the topic of your choice. You are to identify state-of-the-art techniques and compare them to four more. It is advised that these would use any form of deep learning techniques. There is no predefined number of methods you are required to survey and compare since density would vary depending on the area of research assigned. You are encouraged to find off-the-shelf open-source implementations of these techniques and run them for comparative purposes. You may also choose to implement an algorithm of your choice. There is no strict expectation, and you will be assessed on the level of reporting presented in the paper.

You are also given limited Google Cloud Platform credits if you need to use this platform. Full details will be available on the VLE.

<u>Marking Scheme</u>:
- Research Topic Introduction Presentation:
    - 5% First Week of April 2025
    - 5% Early June 2025
- Literature Review: 50%
- Methodology and Evaluation (comparison): 40%

<u>Deliverables</u>:
- Survey Paper in PDF format
- Zip file with the implementation
    - Folder with State of the Art
    - Folder with comparable approaches
        - Folder for each technique

<u>Examples of Research topics</u>
- Hand Gestures and Pose Estimation
- Image Captioning and text generation
- Depth estimation
- People Counting and Crowd Analytics
- Facial Emotion Detection
- Inpainting techniques
- Small-Object Detection

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[1] https://www.ieee.org/conferences/publishing/templates.html