JOANNE LIN

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PROFILE

I am a PhD Candidate in Computer Science at the University of Bristol, funded by the MyWorld Strength in Places programme. My field of research focuses on segmentation and tracking in low-light conditions, with an expected completion date of September 2027. I hold a First-Class Honours BSc in Computer Science from the University of Bristol. My research interests include computer vision, image/video processing and machine learning.

EDUCATION

PhD Computer Science Sep 2023 - Sep 2027
University of Bristol, Currently studying

BSc Computer Science Sep 2020 - Jun 2023
University of Bristol, Award: First class (with Honours)

RESEARCH PROJECTS

Segmentation and Tracking in Low-Light Videos Sep 2023 - Ongoing
PhD Research

- Developing novel end-to-end solutions for mask tracking in low-light videos to assist post-production workflows in the creative industries.
- Published paper on novel weighted non-local blocks for frame-level low-light instance segmentation.
- Developing a synthetic low-light pipeline to remove the necessity of manual annotations for real low-light videos for training segmentation methods.

PUBLICATIONS

Multi-Scale Denoising in the Feature Space for Low-Light Instance Segmentation Mar 2025
IEEE International Conference on Acoustics, Speech, and Signal Processing *ICASSP 2025*

- Developed a novel weighted non-local block module for integration into standard instance segmentation backbones, enhancing robustness in low-light imaging scenarios.
- Conducted extensive evaluations across multiple instance segmentation architectures
- Demonstrated superior performance compared to conventional two-stage pipelines that enhance the images as a pre-processing step.

Towards a General-Purpose Low-Light Synthetic Pipeline for Images and Videos Oct 2025
ACM Workshop on Multimedia Content Generation and Evaluation: New Methods and Practice *McGE 2025*

- Developed a novel approach to low-light image/video synthesis by estimating the noise degradations in real low-light content and applying it onto normal-light content.
- Employed numerous experiments to evaluate against several noise synthesis methods.

INTERNSHIP/TRAININGS

Internship – Outfield Technologies, Remote. Jul 2023 - Aug 2023
Internship - MAC Clinical Research, Remote. Jun 2022 - Sep 2022

POSITION OF RESPONSIBILITY

Teaching Assistant, University of Bristol. Oct 2021 - Ongoing
Computer Science Course Representative, University of Bristol. Nov 2020 - Jun 2023