COMPARISON OF MULTI VIEW STEREO AND NEURAL RADIANCE FIELD FOR PHOTOGRAMMETRIC PROCESSING APPLICATION

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UNIVERSITI TEKNOLOGI MARA MALAYSIA

JULY 2024

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**Thesis submitted to the Universiti Teknologi MARA Malaysia**
**in partial fulfilment for the award of the degree of the**
**Bachelor of Surveying Science and Geomatics (Honours)**

**JULY 2024**

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# ABSTRACT

This research is about generating 3D models for topographic mapping purpose Multi-View Stereo (MVS) and Neural Radiance Field (NeRF). MVS faces challenges with reflective surfaces and under canopy, NeRF, shows that it can overcome these limitations. The study aims to evaluate MVS and NeRF in photogrammetric processing, with the objective of generating 3D models and assessing their quality. The MVS will generate the 3D model by using Agisoft Meta Shape software and NeRF will use NeRFstudio and both the 3D model will be compared using CloudCompare software which will overlap both model and we can identify the difference. The comparative analysis anticipates that NeRF will demonstrate reliability for topographic mapping, offering valuable insights for future applications. The expected outcomes include NeRF ability to predict under canopy, this shows that NeRF has become valuable tool for photogrammetric processing application. In summary, the research emphasizes NeRF's potential to enhance 3D modelling outcomes across diverse scenarios.

Keywords: Neural Radiance Field (NeRF), Multi View Stereo (MVS), 3D model, Topographic mapping, Photogrammetric

# TABLE OF CONTENTS