LONDON'S GLOBAL UNIVERSITY

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A Project Report Presented in Partial Fulfillment of the Degree

Your degree title

September 2024

Abstract

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetuer.

Keywords— keyword 1 - keyword 2 - keyword 3

I dedicate this ...

The computer was born to solve problems that did not exist before.

— Bill Gates

Acknowledgements

Declaration

I, Name, I declare that the thesis has been composed by myself and that the work has not be submitted for any other degree or professional qualification. I confirm that the work submitted is my own, except where work which has formed part of jointly-authored publications has been included and referenced. The report may be freely copied and distributed provided the source is explicitly acknowledged.

12/09/22

Signature	*Date*

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List of Algorithms

List of Abbreviations

BA: Bundle Adjustment

BRIEF: Binary Robust Independent Elementary Features

CNN: Convolutional Neural Network

DCNN: Deep Convolutional Neural Network

FAST: Features from Accelerated Segment Test

GNSS: Global Navigation Satellite System

MAP: Maximum a Posteriori

ML: Maximum Likelihood

MVS: Multi-view Stereo

ORB: Oriented FAST Rotated BRIEF

SIFT: Scale Invariant Feature Transform

SLAM: Simultaneous Localization And Mapping

SURF: Speeded-Up Robust Features

SfM: Structure from Motion

TPU: Tensor Processing Unit

TRC: TPU Research Cloud

vSLAM: visual Simultaneous Localisation and Mapping

1 | Project Plan

2 | Introduction and Background

3 | Methodology

4 | Results and Analysis

5 | Discussion

6 | Conclusion

References

A | Source Code

Source code for all of the methods implemented in Chap. 3 for the project can be found in the GitHub repository:
link.

Project files can be found on Google Drive link

B | Project Introduction Video

A short video presentation, introducing background, aims and organisation of the project, as of 30^{th} June 2022:

link