Textured 3D Mesh Reconstruction of Indoor Environments Using RGB-D Camera

Collin Boots

A THESIS

in

Robotics

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Dr. Daniel D. Lee
Supervisor of Thesis

Dr. Camillo J. Taylor Graduate Group Chairperson

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Abstract

Your abstract goes here... ...

Introduction

- 1.1 Related Work
- 1.2 Thesis Organization

Parallel Programming Paradigms

- 2.1 Principles of Parallel Programming
- 2.2 Parallel Algorithm Building Blocks
- 2.3 Programming with CUDA
- 2.3.1 CUDA GPU Architecture
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Problem Formulation and

Approach

- 3.1 Problem Specification
- 3.2 High Level System Design
- 3.3 Plane Detection and Meshing Pipeline Design

Implementation

- 4.1 RGBD Framework
- 4.2 Preprocessing
- 4.3 Plane Segmentation
- 4.4 Mesh Generation

Performance Analysis

Conclusions and Future Work