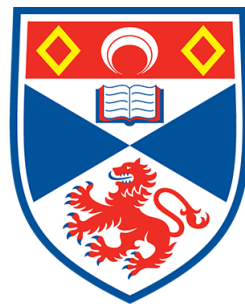


Advanced 3D Monte Carlo Algorithms for Biophotonic and Medical Applications

Lewis McMillan



University of
St Andrews

This thesis is submitted in partial fulfillment for the degree of
PhD
at the
University of St Andrews

August 2019

Declaration

I, Lewis McMillan, hereby certify that this thesis, which is approximately 32000 words in length, has been written by me, that it is the record of work carried out by me, or principally by myself in collaboration with others as acknowledged, and that it has not been submitted in any previous application for a higher degree.

I was admitted as a research student in September 2015 and as a candidate for the degree of PhD in September 2015; the higher study for which this is a record was carried out in the University of St Andrews between 2015 and 2019.

Date Signature of candidate

I hereby certify that the candidate has fulfilled the conditions of the Resolution and Regulations appropriate for the degree of PhD in the University of St Andrews and that the candidate is qualified to submit this thesis in application for that degree.

Date Signature of supervisor

Date Signature of supervisor

Abstract

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Acknowledgements

First of all, thank you to Tom, and Kenny for first allowing me the opportunity to undertake this PhD and for all their support and encouragement over the course of my thesis. If it weren't for you both keeping me on the straight and narrow I'm sure I would still be coding instead of writing. I also swear my code is now bug free...

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Mcconnells

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Kathleen smells

For Lil and Marion.

Contents

Declaration	iii
Abstract	v
Acknowledgements	vii
List of Figures	x

List of Figures

Bibliography