

University of London
Imperial College of Science, Technology and Medicine
Department of Computing

Adaptive Graph Processing

Rob Moore

Supervisor: Holger Pirk

Submitted for the BEng individual project,
June 2018

Abstract

The analysis of connected data presents a source of significant potential value in recent times, due to the increasing prevalence of graph-modelled data sources, such as social media and internet-connected devices. The rate at which these graphs are growing is unlikely to slow down as technology reaches a greater and greater proportion of the world's population, meaning that the cost of offline analysis of these graphs will continue to increase. We present an adaptive solution to graph-data analytics using online edge and vertex clustering, which achieves comparable performance to pre-processing methods, but with no pre-processing step required. We evaluate our techniques against ..., showing that ...

Acknowledgements

I would like to thank my supervisor Holger Pirk for his important knowledge and direction during the project. I'm also grateful to my dad, Ivan, for passing on the tips he found useful in writing up his own work at university.

Contents

Abstract	i
Acknowledgements	iii
1 Introduction	1
1.1 Motivation and Objectives	1
1.2 Contributions	1
1.3 Statement of Originality	1
1.4 Publications	1
2 Background Theory	2
2.1 Introduction	2
3 Conclusion	3
3.1 Summary of Thesis Achievements	3
3.2 Applications	3
3.3 Future Work	3
Bibliography	3

List of Tables

List of Figures

Chapter 1

Introduction

1.1 Motivation and Objectives

Motivation and Objectives here.

1.2 Contributions

Contributions here.

1.3 Statement of Originality

Statement here.

1.4 Publications

Publications here.

Chapter 2

Background Theory

2.1 Introduction

Text of the Background.

Chapter 3

Conclusion

3.1 Summary of Thesis Achievements

Summary.

3.2 Applications

Applications.

3.3 Future Work

Future Work.

Bibliography