

# MULTIGRID FOR SOLVING ELLIPTIC DIFFERENTIAL EQUATIONS

BRIAN KYANJO  
Supervised by Prof. Grady Wright

March 8, 2021

## Contents

<b>1</b>	<b>Introduction</b>	<b>2</b>
1.1	Background . . . . .	2
1.2	Specific Objectives . . . . .	2
<b>2</b>	<b>Literature</b>	<b>2</b>
<b>3</b>	<b>Methodology</b>	<b>2</b>
<b>4</b>	<b>Results</b>	<b>2</b>
<b>5</b>	<b>Conclusion</b>	<b>2</b>

## 1 Introduction

### 1.1 Background

### 1.2 Specific Objectives

- To examining why the method works.
- To apply Fourier Analysis to the two-grid operator.
- To experiment with different smoothers e.g. red-black. Gauss-Seidel to see how errors are smoothed.

## 2 Literature

## 3 Methodology

## 4 Results

## 5 Conclusion

## References