Contents

Acknowledgements i

Dedication ii

Abstract iv

List of figures v

Introduction ---- 1

Chapter I: An introduction to social networks

I.1 Introduction ---- 3

I.2 What is a social network? ---- 3

I.2.1 Nodes and social graph properties ---- 4

I.2.2.1 Twitter ---- 5

I.2.2.2 Twitter-specific terms ---- 5

I.3 Properties of social networks ---- 6

I.3.1 Small world phenomenon ---- 6

I.3.2 Strength of weak ties ---- 7

I.3.3 Triadic closure ---- 7

I.3.4 Information diffusion ---- 8

I.3.4.1 Information cascade ---- 9

I.3.5 Communities as building blocks of social networks ---- 10

I.4 Conclusion ---- 11

Chapter II: Influencers detection state of art

II.1 Introduction ---- 12

II.2 Influencers detection and Applications ---- 12

II.3 influencers detection state of art ---- 13

II.3.1 Structure based methods ---- 13

II.3.2 Content based methods ---- 14

II.3.2.1 Information flow mining algorithm ---- 16

II.3.2.2 influence of an actor ---- 20

II.4 Conclusion ---- 21

Chapter III: Proposed approach

III.1 Introduction ---- 22

III.2 Problem formulation ---- 22

III.3 Proposed approach ---- 22

III.3.1 Major Steps ---- 23

III.3.1.1 Google APIs---------- 23
III.3.1.2 ALCHEMY API ---------- 24
III.4 Experiments---------- 28
III.4.1 Dataset preprocessing---------- 28
III.5 Results ---------- 31
III.6 Future work ---------- 33
III.7 Conclusion ---------- 33
Conclusion---------- 35
References ---------- 36