

UNIVERSITÀ DEGLI STUDI DI PADOVA

SCHOOL OF ENGINEERING DEPARTMENT OF INFORMATION
ENGINEERING

MASTER DEGREE IN COMPUTER ENGINEERING

Example of a Title

Supervisor:

PROF. SALVAGNIN DOMENICO
UNIVERSITÀ DI PADOVA

Candidate:

ZANELLA MATTEO
2122187

Academic Year 2024/2025

Abstract

This is an example of an abstract.

Contents

- 1 Introduction 1**
 - 1.1 Section 1.1 1
 - 1.1.1 Subesction 1.1.1 1
 - 1.2 Math equations examples 1
 - 1.3 Pseudocode examples 2
 - 1.4 Graphs examples 2
 - 1.4.1 Example of citations 2

Chapter 1

Introduction

This is an example of a chapter...

1.1 Section 1.1

1.1.1 Subesction 1.1.1

Write something here...

1.2 Math equations examples

$$\left\{ \begin{array}{l} \min \sum_{e \in E} c_e x_e \\ \sum_{e \in \delta(h)} x_e = 2 \quad \forall h \in V \\ \sum_{e \in \delta(S)} x_e \leq |S| - 1 \quad \forall S \subset V : v_1 \in S \\ 0 \leq x_e \leq 1 \quad \text{integer} \quad \forall e \in E \end{array} \right. \quad \begin{array}{l} (1.1) \\ (1.2) \\ (1.3) \\ (1.4) \end{array}$$

Constraints 1.2 impose that every node of the graph must be touched by exactly two edges of the cycle. This group of constraints alone isn't enough to guarantee to find a valid Hamiltonian Cycle: we could find lots of isolated cycles.

1.3 Pseudocode examples

Algorithm 1 Greedy algorithm for the TSP

Input Starting node $s \in V$, Set of nodes V

Output List of $n := |V|$ nodes forming an Hamiltonian Cycle, Cost of the cycle

cycle $\leftarrow [s]$

cost $\leftarrow 0$

for $i = 0$ to $n - 2$ **do**

 next $\leftarrow \operatorname{argmin}_v \{c_{\text{cycle}[i],v} \mid v \notin \text{cycle}\}$

 cost $\leftarrow \text{cost} + c_{\text{cycle}[i],\text{next}}$

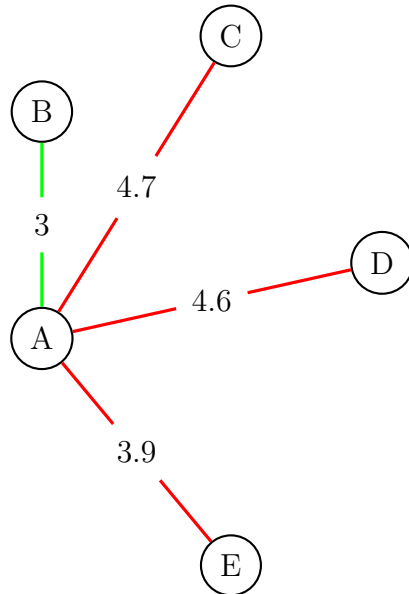
 cycle[$i + 1$] $\leftarrow \text{next}$

end for

cost $\leftarrow \text{cost} + c_{\text{cycle}[n-1],s}$

return cycle, cost

1.4 Graphs examples



1.4.1 Example of citations

This is a citation to Croes [1]

Bibliography

- [1] G. A. Croes. “A Method for Solving Traveling-Salesman Problems”. In: *Operations Research* 6 (1958), pp. 791–812. URL: <https://api.semanticscholar.org/CorpusID:123646893>.