Scelta finale titolo

Abstract – Purpose ↙ NON MODIFICARE ↑

Table of content

- Figures
- Tables
- Acronyms and definitions
- Introduction (history)
- Theory background → Gurobi explanation? Linear programming and constraints; → ? Brief expl about Python
- Problems definition, ~~decision variables~~ and metrics, distinction btwn 2 cases → Computational complexity. → Contextualization of dimension of dataset.
- Gurobi models
- Methodology (all algorithms logic)
- Different datasets and results
- Conclusion and future work

- Bibliography
- Appendices (raw data?)

Fatto ma da rivedere con calma

Acronimi: DV, DVS, OF, OT, OR, AOP, A, S, AW, AOPSP, IAOPORSP, LP, MILP

QP
IB input domain
OD out.

Metti la data quando fin.

~~Fare sommario~~

Richieste Ghirardi presentazione dati

Reference sparse

Numero di pagine presente due volte quando inizia il chapter

Più di pagine errato

10mm before section
6mm before subsection

NOINDENT dopo def. and other.

Abstract: What the purpose of the thesis / what does it bring
- Context
- Scheduling description
- Problems description
- Stages of the work done
- Results and implications.

Introduction:
- ~~Historical overview on scheduling~~
- What does this thesis work on, resource wise
- Explanation on the logic behind solvers and mathematical rigorousity
- The necessity of reducing cost and time: solver vs algorithmic solutions
- Ways of finding a solution, exact algorithm vs euristic, optimal solutions.
- Current status of research of the topic
- What is my contribution to this topic

Gurobi models: 3 sections → AOPSP (1 model) and IAOPORPS (2 models)

Each section will contain:
- Decision variables and parameters
- Objective function
- Constraint documentation and description
- Rapid results overview

Decision = C → Time-based model
Decision = Z → Assignment-based model

$X > Y, Z \Rightarrow X \in [10, 100]$, $Y, Z \in [5, 40]$

Validation istances:

① No need, algorithm is optimal

② OF: A>S,AW ; S>A,AW ; AW>A,S ; A≃S≃AW : 20×N, N: 10, 15, 20 | for all algorithms = 240 → OF_X_N_i.TXT

$x \in [\emptyset, 1, 2, 3]$ (↑ normal, A, S, AW)
$N \in [11, 15, 19]$ meglio
$i \in [1 \dots 20]$

Time compl.: Gurobi new vs final algorithm | 5×N, N: 5…16 (step: 2) = 120 (used A≃AW≃S) → TIME_N_i.TXT →
$N \in [5, 7 \dots 15, 17]$
$i \in [1 \dots 5]$

(Methodology)

Algorithms:

P1: 1) Forward Greedy 2) Backward Greedy 3) Eugenics Algorithm? ehehe

P2: 1) Forward greedy + (1.1) Swapping, 1.2) Sliding, 1.3) Group sliding) + 2) Adaptive neighborhood…

THEORY BACKGROUNDS: P VS NP ——→ ~~WHAT IS A PROBLEM AND THE MODEL~~
~~WHAT IS AN ALGORITHM → DEF~~
~~COMPUTATIONAL COMPLEXITY OF AN ALGORITHM → BEST, EASY CASE OF ALL COMBINATIONS~~
P- PROBLEM
NP PROBLEM
BRIEF DISCUSSION ON NP-HARD AND NP COMPLETE
OPTIMAL SOLUTION VS HEURISTIC SOLUTION
IMPLICIT ENUMERATION OF ALL SOLUTIONS

SCHEDULING PROBLEM CLASSIFICATIONS: WHAT IS SCHEDULING INFORMALLY
DEFINITION
3 FIELD CLASSIFICATION
α
β
γ
JOB SHOP, FLOWSHOP INSIGHT.
FLEXIBLE VARIATION