Ferramentas Computacionais para Ciência dos Dados (MIAA)

Anúncios
Sumários
Ficha da UC

Student Grading

- Grading is done through 2 projects throughout the course:
  - Delivery deadline project nº 1: 21/03/2024
  - Delivery deadline project nº 2: 21/03/2024
  - Mandatory oral presentation
- Final grade:
  - Each project has a weight of 50% in the final grade.
  - The minimum grade for each project is 8.
  - or
  - Project2 has a weight of 100% in the final grade (in this case the implementation of user interaction will be valued).

Support Material

Classes Summary and other information

https://docs.google.com/spreadsheets/d/1rQ5Lpn19NmFC0HPiSuYdPVRpU7VGhuM4GwdB7nAQqY/edit?usp=sharing

Cronograma 2023 2024 1º ano (4)
Ficha UC 01.00 1869

Classes Slides

CTDC Slides (6)

Pyomo Support Material

example1b
example1a
example5
example3
example2
example7
example8
example10
example4
example6
example9
example11

Picat Support Material

jobshop5
data8x7
Solução Matriz 8x7
Zhou8x8

Mathematical Optimization

https://www.sciencedirect.com/topics/computer-science/mathematical-optimization

0 Comparative Analysis
1 Comparative Analysis
2 Comparative Analysis
3 Overview Optimization Software
Performance in Optimization Models A Comparative Analysis of GAMS, Pyomo, GurobiPy, and JuMP (2)

Pyomo

https://www.pyomo.org/

https://pyomo.readthedocs.io/en/stable/index.html

https://jckantor.github.io/ND-Pyomo-Cookbook/README.html

https://github.com/Pyomo/pyomo/tree/main/examples

https://github.com/Pyomo/PyomoGallery/wiki

pyomo-readthedocs-io-en-latest

Picat

http://picat-lang.org/

http://www.hakank.org/picat/

get started(2)
picat guide
Constraint Solving and Planning with Picat by Neng-Fa Zhou, Håkan Kjellerstrand, Jonathan Fruhman (auth.) (z-lib.org)
slides(4)

Gurobi

https://www.gurobi.com/

https://www.gurobi.com/documentation/

0 gurobi Mathematical Optimization 2023
1 gurobi mip
2 gurobi demos
3 gurobi algorithms
4 gurobi python
5 gurobi python2

NEOS Server for Optimization

https://neos-server.org

https://neos-guide.org/users-guide/third-party-interfaces/

https://neos-guide.org/users-guide/third-party-interfaces/#pyomo

https://neos-server.org/neos/solvers/lp:Gurobi/AMPL.html

Practical Projects

Project nº 1 (Picat)
Delivery deadline 21/03/2024

Comando para interpretação do código exemplo:
picat homeAutomation.pi data_Home.pi 50

Projeto Avaliação 1
Practical Project nº 1 Submission
Home Automation Scheduling
homeAutomation
data Home

Project nº 2 (Pyomo)
Delivery deadline 21/03/2024

Support Material
https://cienciadedatos.net/documentos/py38-optimizacion-horarios-python.html

Projeto Avaliação 2
Example
example11
Practical Project nº 2 Submission

Zoom Link

https://videoconf-colibri.zoom.us/meeting/register/tJIrd-2uqTMoGNImxkNJ0geyTMCUZHyABsqg

Tópico 10

Tópico 11