Ph.D. Program in Consumers and Markets

Curriculum: Finance, markets and regulation

AI ALGORITHMS

Given by Valerio Giuseppe Sasso | Scholar in Operations Research at Sapienza University of Rome, Department of Computer, Control and Management Engineering Antonio Ruberti (DIAG)

When Wednesday 29th May, h: 14:30 – 17:30; Friday 31st May, h: 14:30 – 17:30; Monday 3rd June, h: 14:30 – 17:30; Wednesday 5th June, h: 14:30 – 17:30; Friday 7th June, h: 10:00 – 12:00/14:30 – 16:30

Where Computer lab (small room), ground floor | Department of Business Studies – Roma Tre University | Via Silvio D'Amico, 77, 00145 - Rome, Italy | Google Maps

Main Topics:

LECTURE I (3 hours)

- Motivating Examples
- Convexity and Optimality Conditions
- Theoretical Properties
- Interactive Practical Examples

LECTURE II (3 hours)

- Projection Operator
- Lipschitz Condition
- Convergence Properties of the Projected Gradient Algorithm
- Interactive Practical Examples

LECTURE III (3 hours)

- Linesearch Techniques
- Examples of Closed Form Projection
- Interactive Practical Examples

LECTURE IV (3 hours)

- Motivating Examples
- Newton Method Numerical Aspects
- Newton Method vs Projected Gradient Algorithm

LECTURE V (4 hours)

- Interior Point Method
- Interactive Practical Examples

- MATLAB Solvers Settings

Each lecture will include MATLAB applications of the theoretical tools presented.

Material:

Supporting material will be provided during the course.