



Introduction to Optimization Methods

Workshop Overview

This workshop introduces you to various methods of optimization, specifically convex optimization, and their use in problem solving. The topics covered include: formulations, duality theory, approximation and fitting, unconstrained and constrained optimization along with engineering applications.

Please note that this workshop serves as a preparation for the Artificial Neural Networks (ANNs) workshop that will take place on Wednesday March 23rd at 5.

Learning Outcomes

- To know how an optimization problem is formulated.
- To know how to classify an optimization problem.
- To be introduced to the Lagrangian dual function.
- To apply optimization techniques in approximation and fitting problems.
- To learn about some numerical methods for solving convex optimization problems

Prerequisites

You should have a good mathematical background, mainly in Linear Algebra and Multivariable Calculus, to apply it in understanding the theory and developing the algorithms of the presented optimization methods.

Also, a basic knowledge of programming logic is a must. Having previous experience in MATLAB is recommended.

Presenters

Wael Hajj Ali (wrh01@mail.aub.edu)

Hardware/software setup

We will have the session in a lab equipped with MATLAB. You do not need to bring anything with you to the workshop.

Location, Time & Date

IOEC 418 ECE Control lab, Wednesday **March 16th** at **5pm**.

Registration

Kindly fill [this form](#), and we will confirm your place by email. For any questions or inquiries email us at club@aubrobotics.com. More info is available on our website aubrobotics.com