

MATHEMATICS OF DATA SCIENCE

October 24, 2023

Today: Convex optimization Part 1

Thursday: C. Royer's group \Rightarrow 2 tutorials 15^h30 - 18^h45
J. Lesca's group \Rightarrow NO tutorial

Next week: Lecture Tuesday 13^h45 - 15^h15
C. Royer's group \Rightarrow 1 tutorial Thursday 17^h15 - 18^h45
J. Lesca's group \Rightarrow 2 tutorials
Tuesday 17^h15 - 18^h45
Thursday 17^h15 - 18^h45

NB: Due to a technical issue, the virtual board could not be used.
The topics covered in this lecture correspond to sections 2.1.1. - 2.1.3. of the lecture notes

Outline of the lecture

- \rightarrow Definition of an optimization problem, feasible set, problem domain, optimal value, solution
- \rightarrow Reformulations of an optimization problem, constraint reformulation, epigraph form, indicator function
- \rightarrow Convex optimization problems: definition and standard form
- \rightarrow Maximization problems: reformulation, convex case