

Assignment 1

Consider a multi-objective optimization problem:

$$\begin{aligned} \min_{(x_1, x_2) \in \mathbb{R}^2} \quad & \{f_1(x_1, x_2) = -x_1, f_2(x_1, x_2) = x_1 + x_2^2\} \\ & x_1^2 - x_2 \leq 0 \\ & x_1 + 2x_2 - 3 \leq 0 \end{aligned}$$

Draw the feasible region of the decision variable space and the feasible region of the objective space. Define and draw the Pareto-optimal points in both spaces.