

Summer 2020
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Optimization and Data Science

Exam exercise 4

Apply the first and second order optimality condition based on Lagrange multipliers and determine all solutions of the problem

$$\min_{x \in \mathbb{R}^2} -x_1x_2 - \frac{1}{2}x_2^2 \quad \text{subject to} \quad (x_1 + x_2)^2 = 4.$$