

Exercise Day 1: Data-Driven (Multi-objective) Bayesian Optimisation

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The aim of this exercise is to get familiar with the hypervolume indicator. Consider a bi-objective minimisation problem, where an algorithm has produced a set of solutions. Those solutions representing objective function values have been provided to you. Your task is to estimate the hypervolume of the given data set. You can select a reference point of your choice. Further, check the sensitivity of the reference point. Use different reference points and analyse how hypervolume changes with changes in the reference point. You can use pymoo library (<https://pymoo.org/>) to estimate the hypervolume. An example is provided here: <https://pymoo.org/misc/indicators.html>