# Notes on Bayesian Optimization for Multi-Objective Optimization

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## Overview of Bayesian Optimization in Single- and Multi- Objective Optimization Problems

Mathematical Formulation: we are considering the problem of finding a global maximizer (or minimizer) of an unknown objective function :

(1)

where is some design space of interest; In global optimization, is often a compact subset of but the Bayesian optimization framework can be applied to diverse search spaces which involve categorical or conditional inputs or even combinatorial search spaces with multiple categorical inputs.

# Bibliography

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