Overview

# Gurobi OptiMods

Data-Driven APIs for common optimization tasks

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GUROBI
OPTIMIZATION

# If you dive into mathematical optimization...
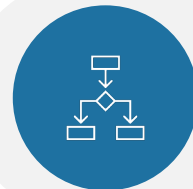
# An OptiMod...

Is a tool to solve a specific, practical problem

Has a data-driven API for a common optimization problem, integrates with the greater Python ecosystem
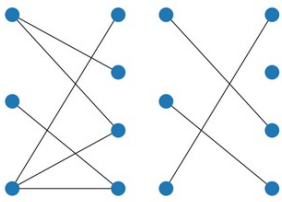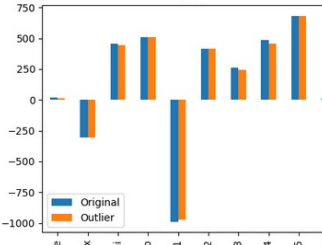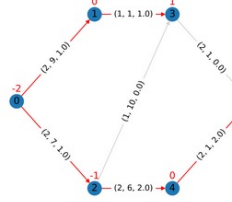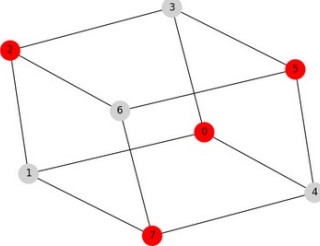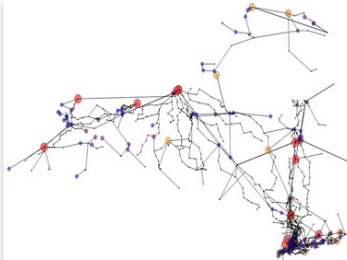
Takes data in "natural form", returns a solution in "natural form"

Solves a mathematical optimization problem using Gurobi's MIP technology without the need to dive into mathematical modeling
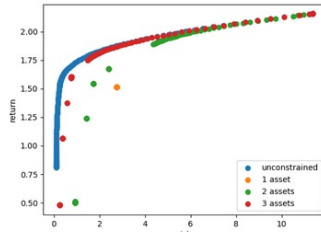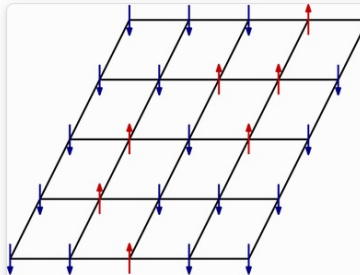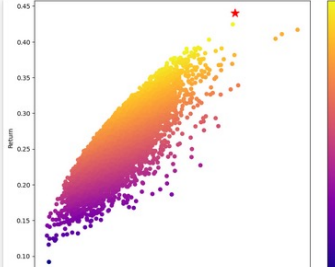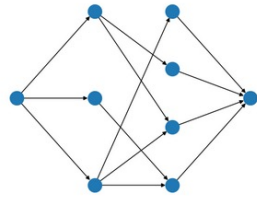
**Maximum Bipartite Matching**

**Least Absolute Deviation Regression**

**Minimum-Cost Flow**

**Maximum Weighted Independent Set**

**Optimal Power Flow**

**Mean-Variance Portfolio**

**Quadratic Unconstrained Binary Optimization (QUBO)**

**Maximum Sharpe Ratio**

**Workforce Scheduling**

# First seed of Mods

Search docs

# Welcome to Gurobi OptiMods's documentation!

**Gurobi OptiMods**: nice APIs for common optimization tasks.

`gurobi-optimods` is an open-source Python repository of implemented optimization use cases using Gurobi, each with clear, informative, and pretty documentation that explains how to use it and the mathematical model behind it.

The package is a collection of independent 'Mods'. Each Mod is intended to be immediately applicable to real use cases. However, we expect that for many practical applications users will need to understand and extend the implementation of a Mod to tailor it to their use case. Read the Usage section first for an overview of the design and use case for the OptiMods.

Check out The OptiMods Gallery for a quick overview of the current set of implemented Mods. We welcome contributions of new Mods based on use cases you are interested in, as well as fixes and improvements to existing Mods. See Contributing to OptiMods and Adding a new Mod for more information on how to get involved in the project.

**Please note**: while this project is open source, the `gurobipy` library that it depends on is commercial software and requires a license. See License for further details.

Next ➡

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# Where to get it

- pip install gurobi-optimods

- Documentation on Read the Docs

GUROBI OPTIMIZATION

# Example: Optimal mean-variance portfolios

# Gurobi/gurobi-optimods

- Apache 2.0 licensed

- Detailed contribution guideline

- Easy to get started

- Use issues, PRs as ususal

# Thank You

https://github.com/Gurobi/gurobi-OptiMods

https://gurobi-optimization-gurobi-optimods.readthedocs-hosted.com/en/stable/index.html