

# GSEE Benchmark Standard Report

Report created on 2025-01-14T21:41:39.280731+00:00

<https://github.com/isi-usc-edu/qb-gsee-benchmark>

Input data: aggregated\_solver\_labels.csv, last modified Tue Jan 14 15:41:23 2025

Input data: Hamiltonian\_features.csv, last modified Mon Dec 30 16:29:03 2024

Input data: GSEE-HC\_utility\_estimates\_all\_instances\_task\_uuids\_v2.csv, last modified Thu Jan 9 12:11:19 2025

Input data: Latest creation time for a problem\_instance.json file: Mon Jan 13 10:14:13 2025

Latest creation time for a performance\_metrics.json file: Tue Jan 14 16:15:38 2025

Latest creation time for a solution.json file: Tue Jan 14 15:07:46 2025

## Problem Instance Summary Statistics

number of problem\_instances: 82

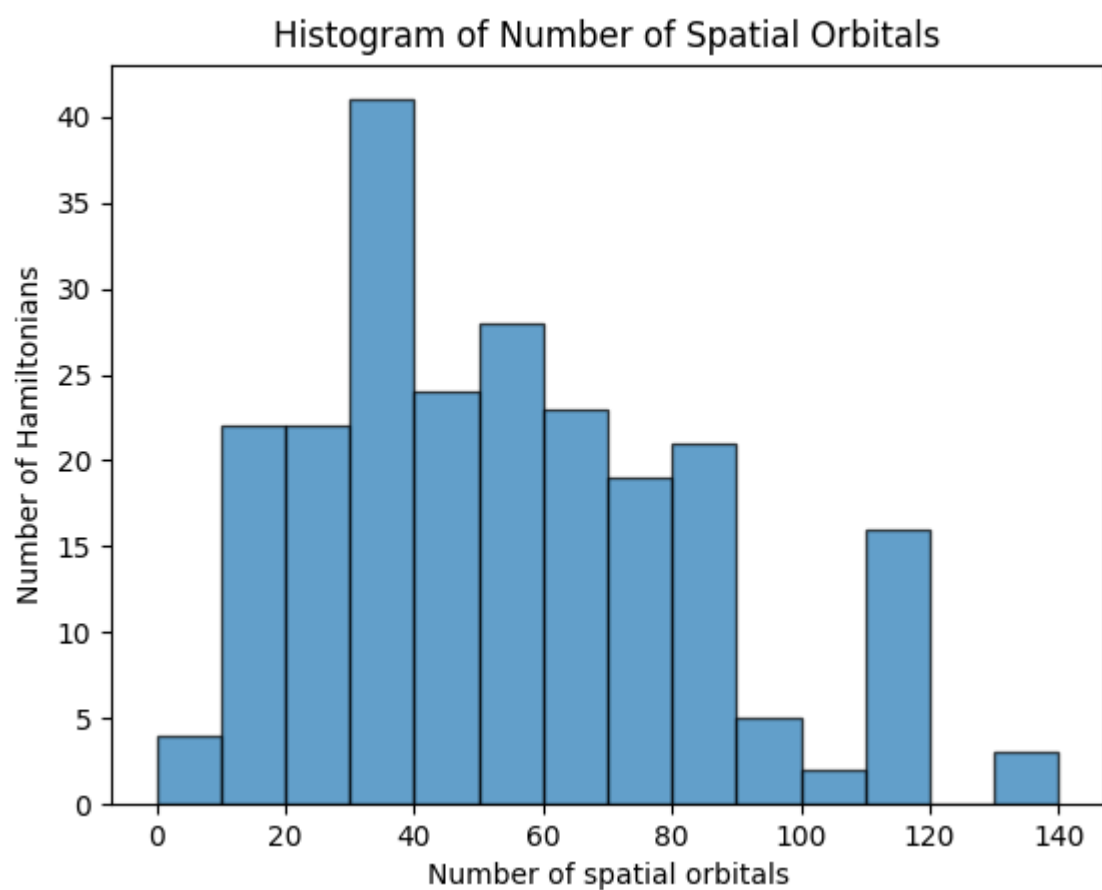
problem\_instance.json with the most tasks: 16 (mo\_n2\_pincer/8a3787cc-d3d0-42a8-d9a9-7de2aed45208)

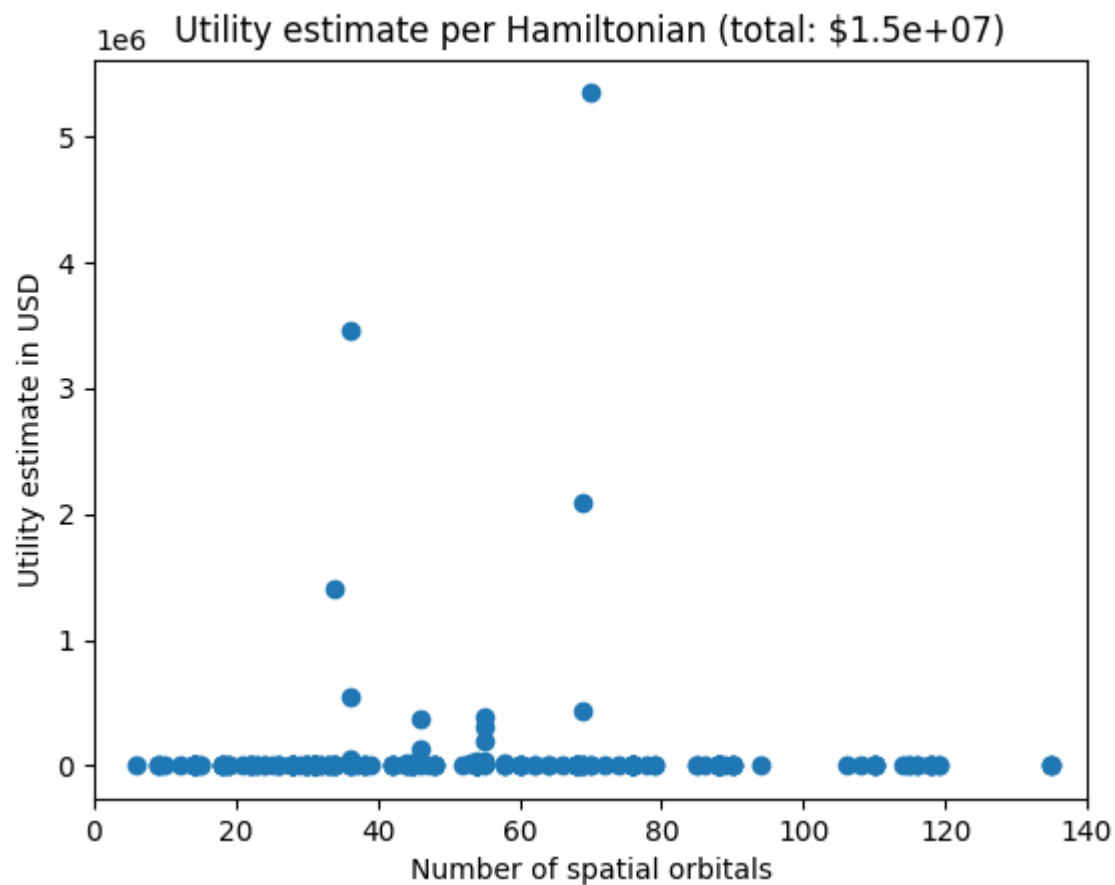
number of Hamiltonians (i.e., tasks): 230

minimum number of orbitals: 6

median number of orbitals: 53.5

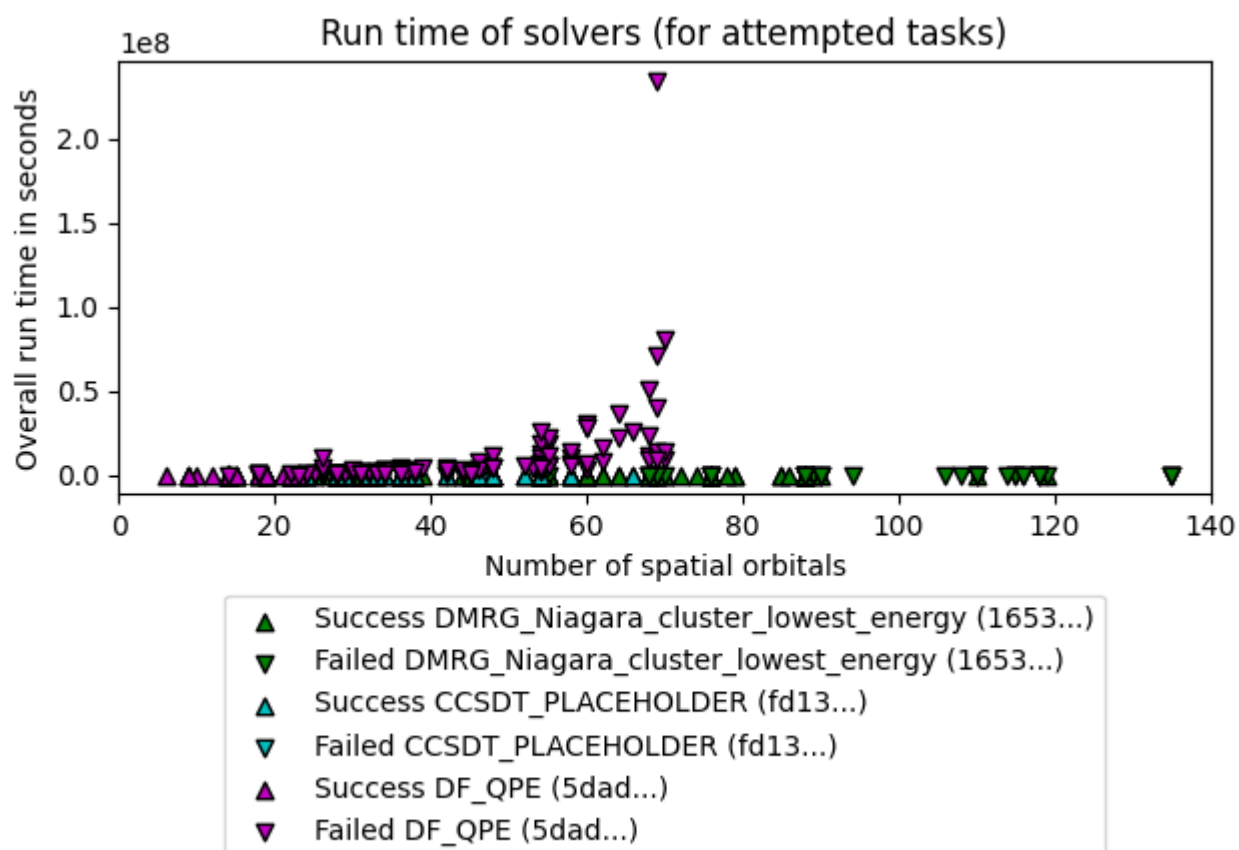
maximum number of orbitals: 135

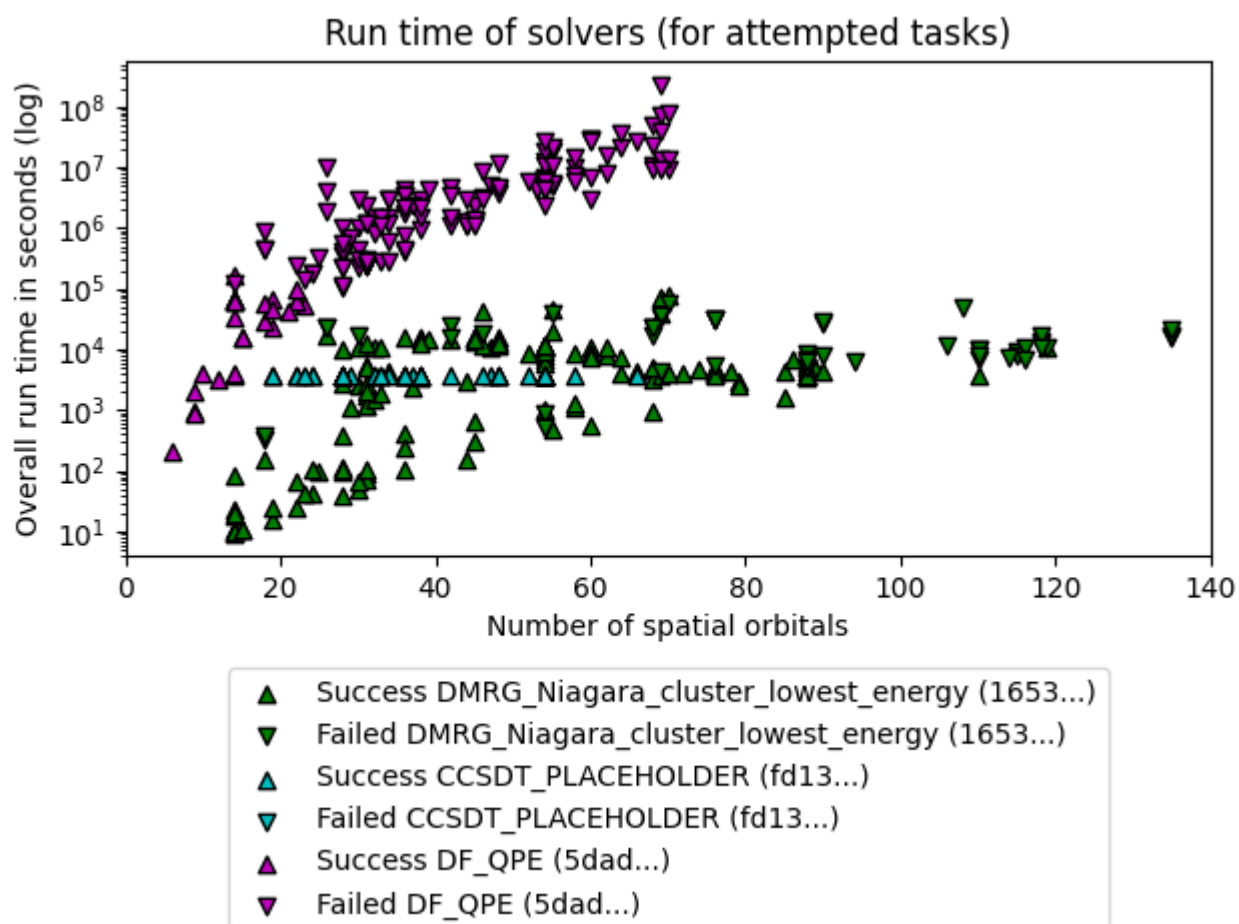




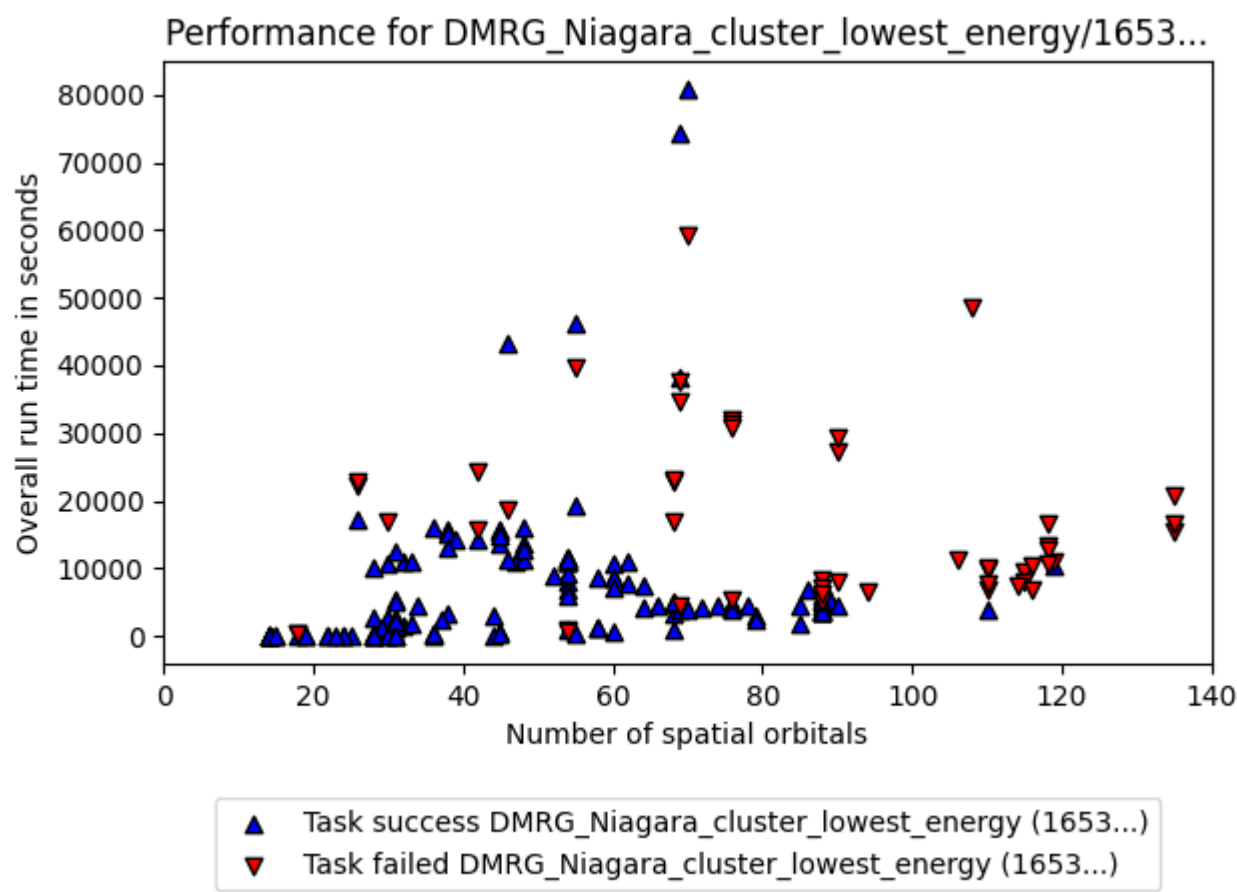
## Solver Summary Statistics

number of unique participating solvers: 3



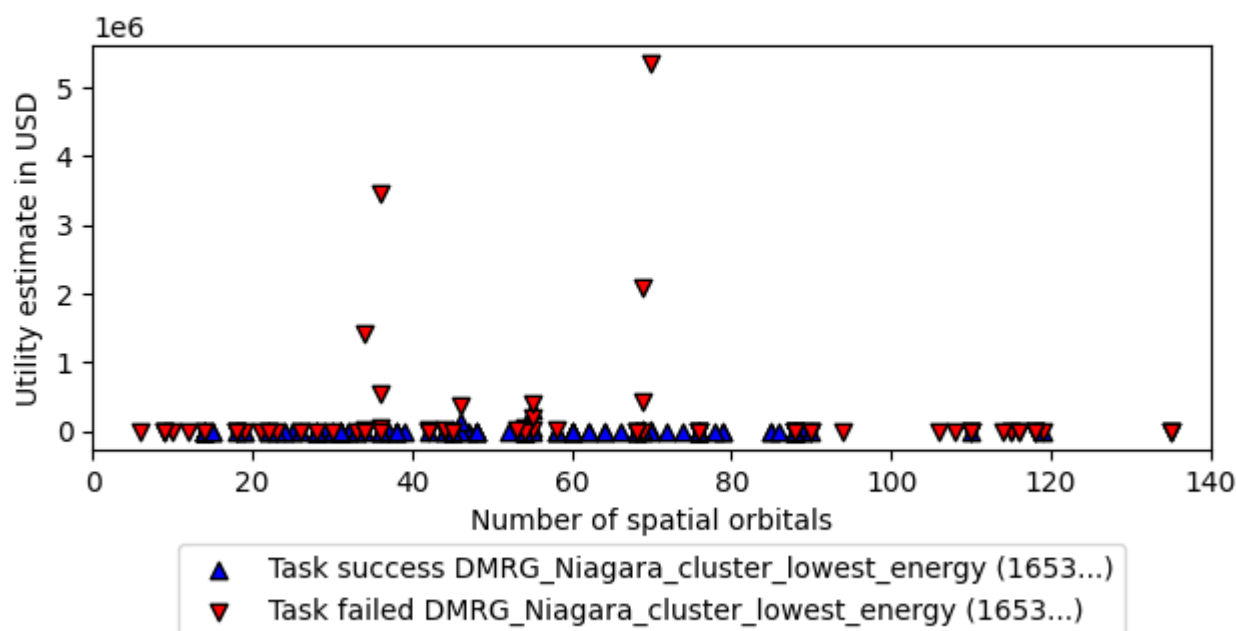


**Solver DMRG\_Niagara\_cluster\_lowest\_energy,  
16537433-9f4c-4eae-a65d-787dc3b35b59**



Utility capture from DMRG\_Niagara\_cluster\_lowest\_energy/1653...

(captured:  $\$5.2e+05/1.5e+07$ , approximately  $3.5e+00\%$ )



solver\_short\_name: DMRG\_Niagara\_cluster\_lowest\_energy

performance\_metrics\_uuid: 967e6eb2-9928-4bc3-8bf4-d17c223b2369

creation\_timestamp: 2025-01-14T21:15:08.273215+00:00

number\_of\_problem\_instances: 82

number\_of\_problem\_instances\_attempted: 76

number\_of\_problem\_instances\_solved: 43

number\_of\_tasks: 230

number\_of\_tasks\_attempted: 192

number\_of\_tasks\_solved: 142

number\_of\_tasks\_solved\_within\_run\_time\_limit: 192

number\_of\_tasks\_solved\_within\_accuracy\_threshold: 142

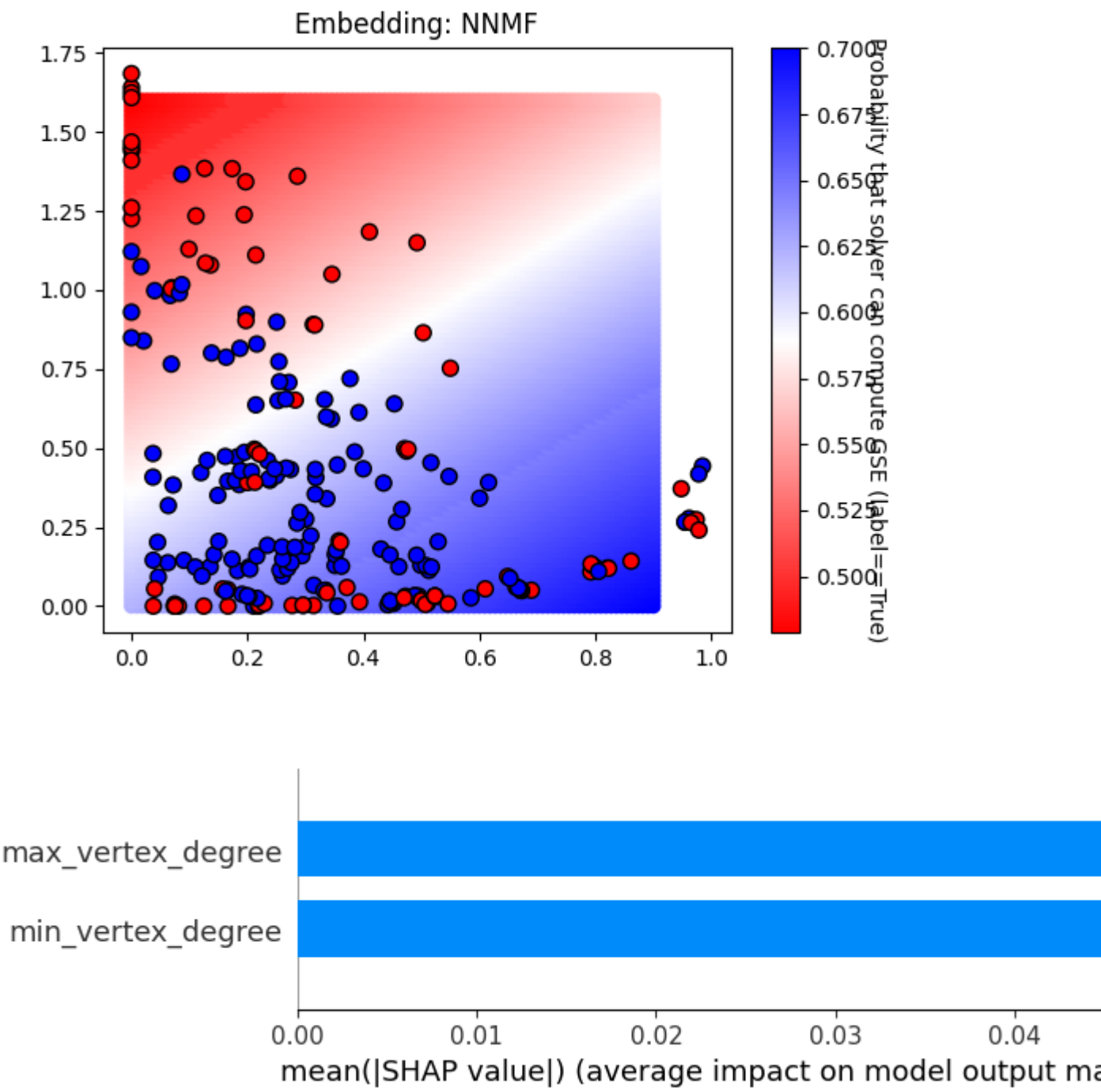
max\_run\_time\_of\_attempted\_tasks: 80820.729907066

sum\_of\_run\_time\_of\_attempted\_tasks: 1824772.0337238186

solvability\_ratio: 0.9711

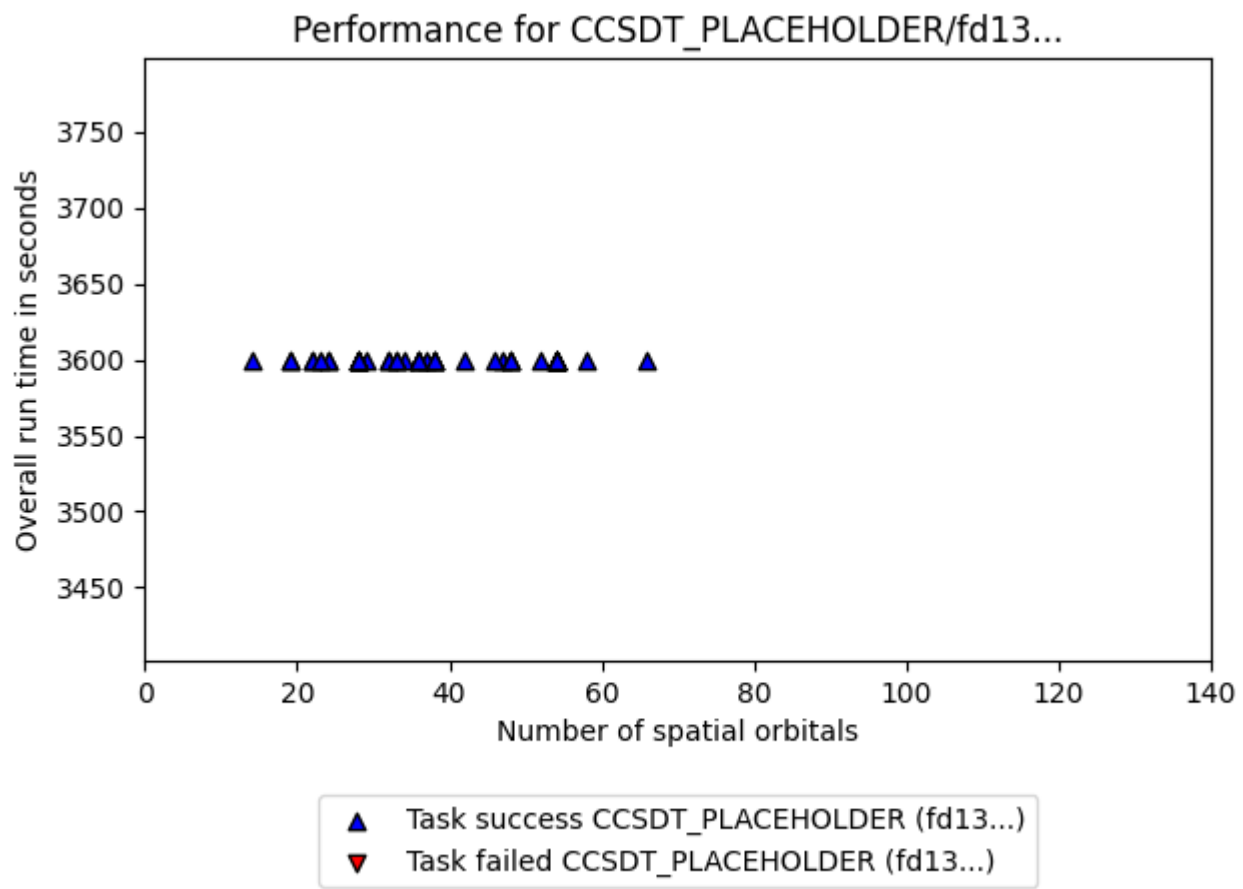
f1\_score: [0.7586206896551724, 0.8531468531468531]

ml\_metrics\_calculator\_version: 1



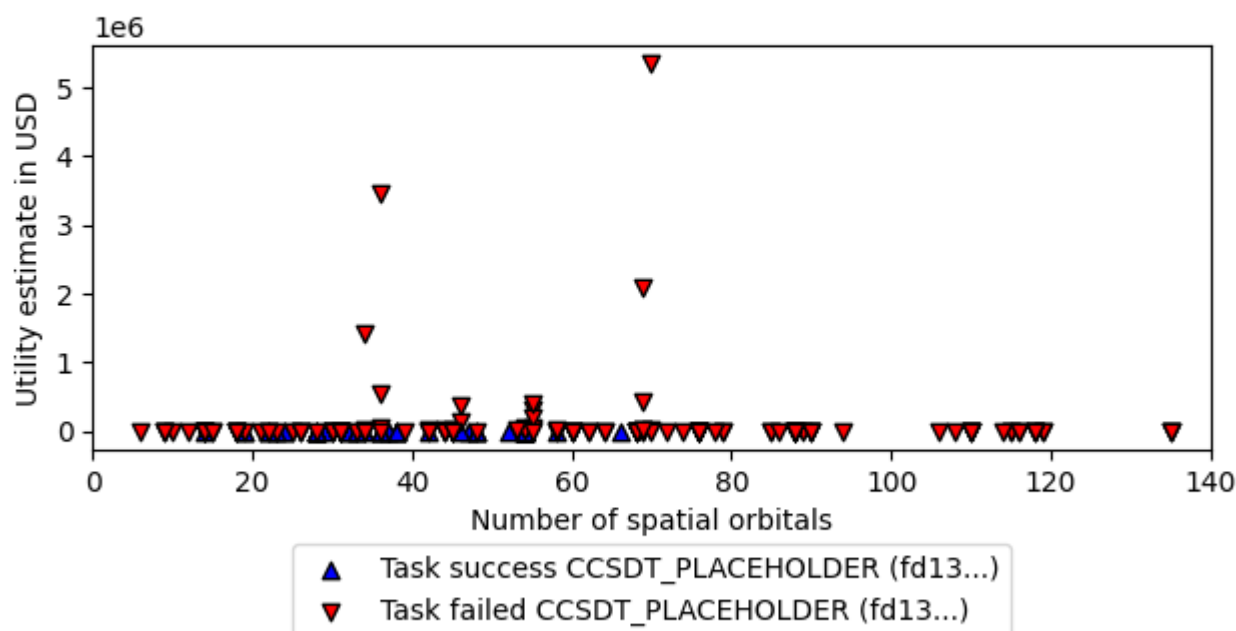


**Solver CCSDT\_PLACEHOLDER, fd13c864-baf1-44de-b52d-0e5dd69f647a**



### Utility capture from CCSDT\_PLACEHOLDER/fd13...

(captured: \$0.0e+00/1.5e+07, approximately 0.0e+00%)



solver\_short\_name: CCSDT\_PLACEHOLDER

performance\_metrics\_uuid: 52576a21-8818-4009-8fc5-666148e0445d

creation\_timestamp: 2025-01-14T21:15:08.818640+00:00

number\_of\_problem\_instances: 82

number\_of\_problem\_instances\_attempted: 4

number\_of\_problem\_instances\_solved: 4

number\_of\_tasks: 230

number\_of\_tasks\_attempted: 53

number\_of\_tasks\_solved: 53

number\_of\_tasks\_solved\_within\_run\_time\_limit: 53

number\_of\_tasks\_solved\_within\_accuracy\_threshold: 53

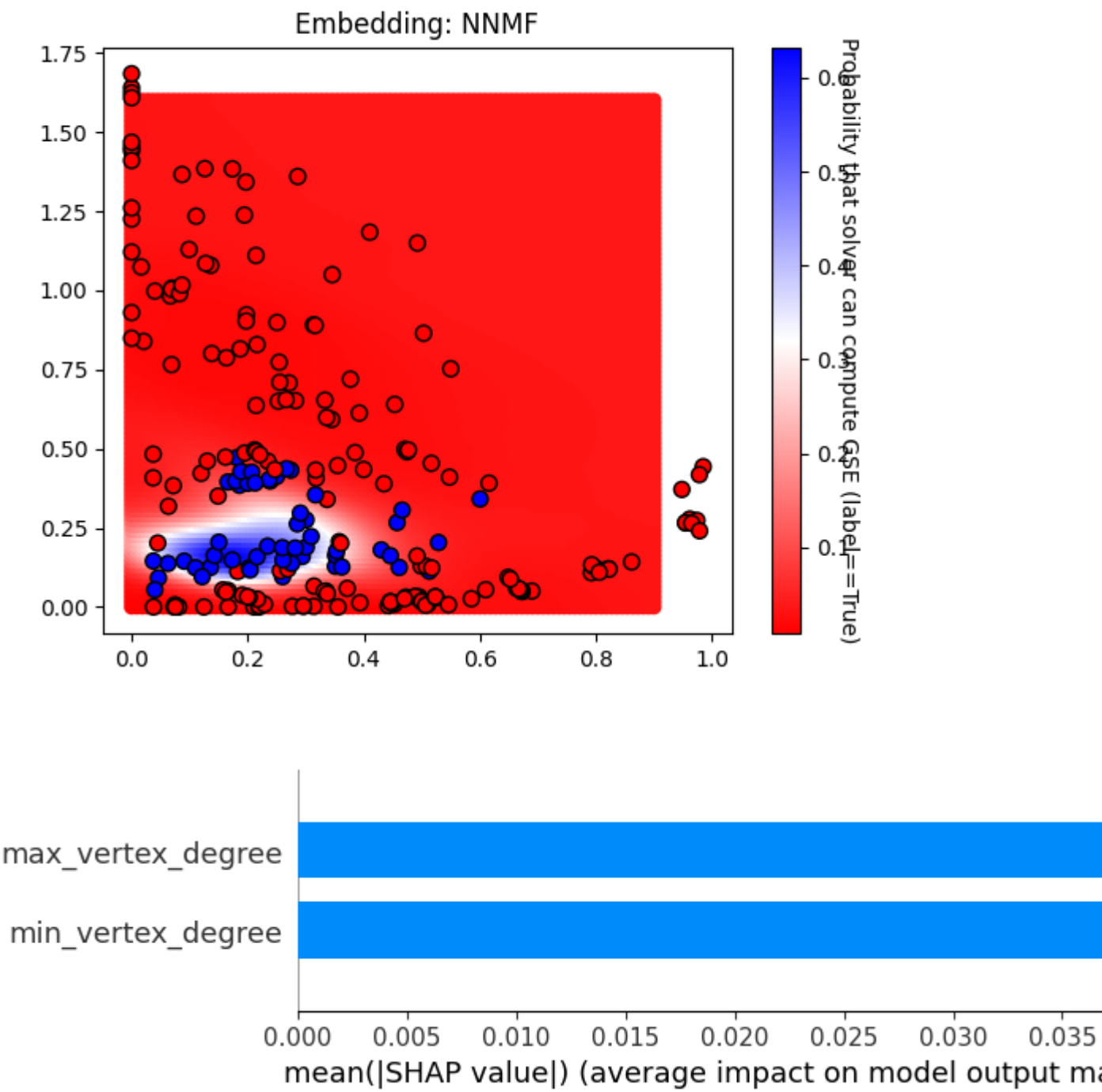
max\_run\_time\_of\_attempted\_tasks: 3600.0

sum\_of\_run\_time\_of\_attempted\_tasks: 190800.0

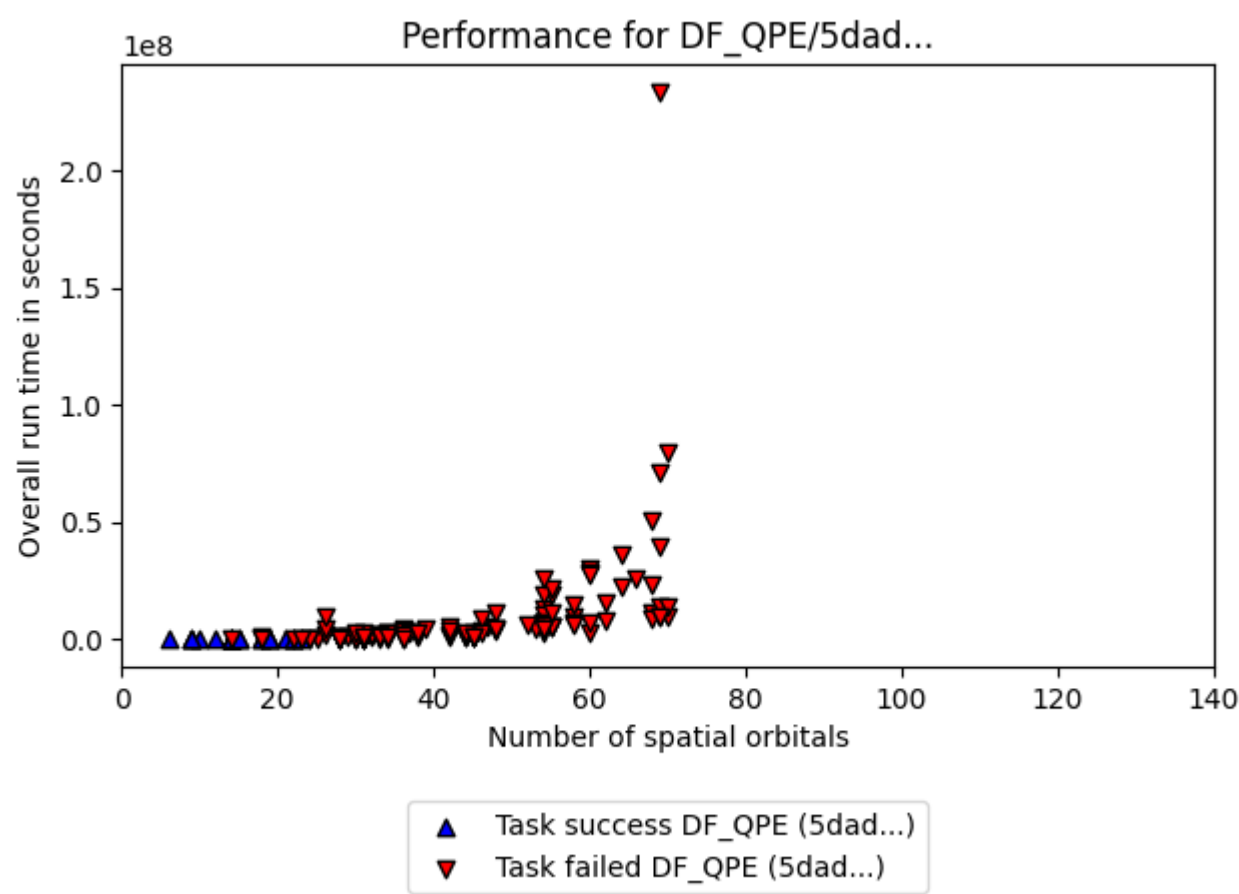
solvability\_ratio: 0.0103

f1\_score: [0.9915492957746479, 0.9714285714285714]

ml\_metrics\_calculator\_version: 1

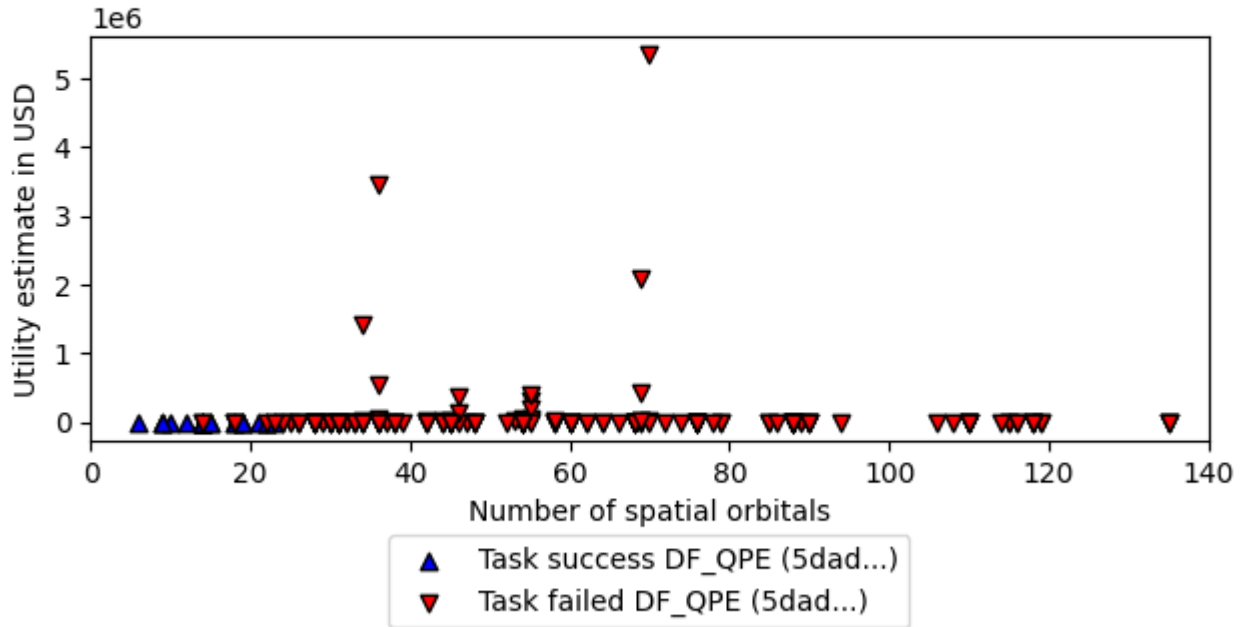


**Solver DF\_QPE, 5dad4064-cd11-412f-85cb-d722afe3b3de**



### Utility capture from DF\_QPE/5dad...

(captured:  $\$7.8e-01/1.5e+07$ , approximately  $5.2e-06\%$ )



solver\_short\_name: DF\_QPE

performance\_metrics\_uuid: acd97190-9a59-49bf-a6c0-e635837867d8

creation\_timestamp: 2025-01-14T21:15:09.271301+00:00

number\_of\_problem\_instances: 82

number\_of\_problem\_instances\_attempted: 24

number\_of\_problem\_instances\_solved: 3

number\_of\_tasks: 230

number\_of\_tasks\_attempted: 163

number\_of\_tasks\_solved: 26

number\_of\_tasks\_solved\_within\_run\_time\_limit: 26

number\_of\_tasks\_solved\_within\_accuracy\_threshold: 163

max\_run\_time\_of\_attempted\_tasks: 233737829.40462503

sum\_of\_run\_time\_of\_attempted\_tasks: 1180589418.3385441

solvability\_ratio: 0.0154

f1\_score: [0.9950738916256158, 0.9629629629629629]

ml\_metrics\_calculator\_version: 1

