

# GSEE Benchmark Standard Report

Report created on 2025-01-08T14:34:09.541855+00:00

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

Input data: aggregated\_solver\_labels.csv, last modified Wed Jan 8 09:13:55 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 Wed Dec 11 11:17:02 2024

Input data: Latest creation time for a problem\_instance.json file: Wed Jan 8 07:08:49 2025

Latest creation time for a performance\_metrics.json file: Wed Jan 8 09:33:34 2025

Latest creation time for a solution.json file: Wed Jan 8 09:10:43 2025

## Problem Instance Summary Statistics

number of problem\_instances: 82

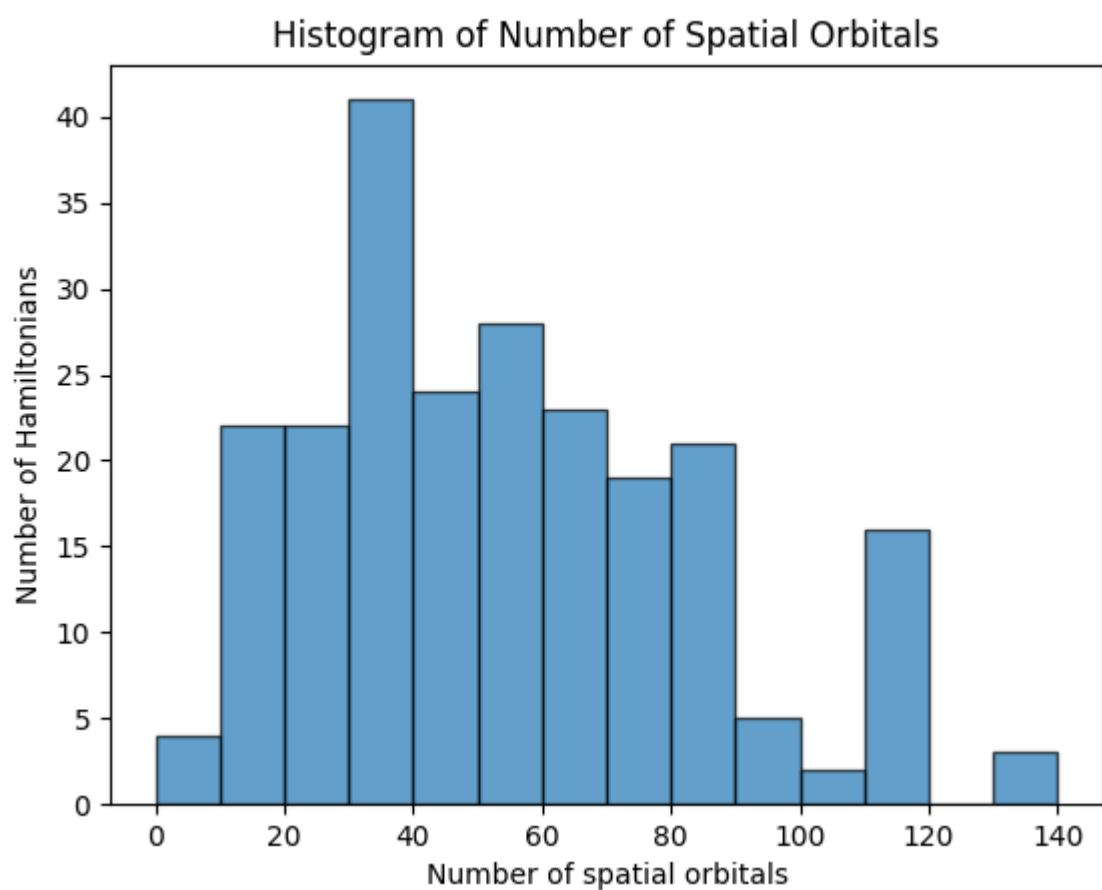
problem\_instance.json with the most tasks: 16 (mo\_n2\_pincer/8a3787cc-d3d0-42a8-d9a9-7de2aed45208)

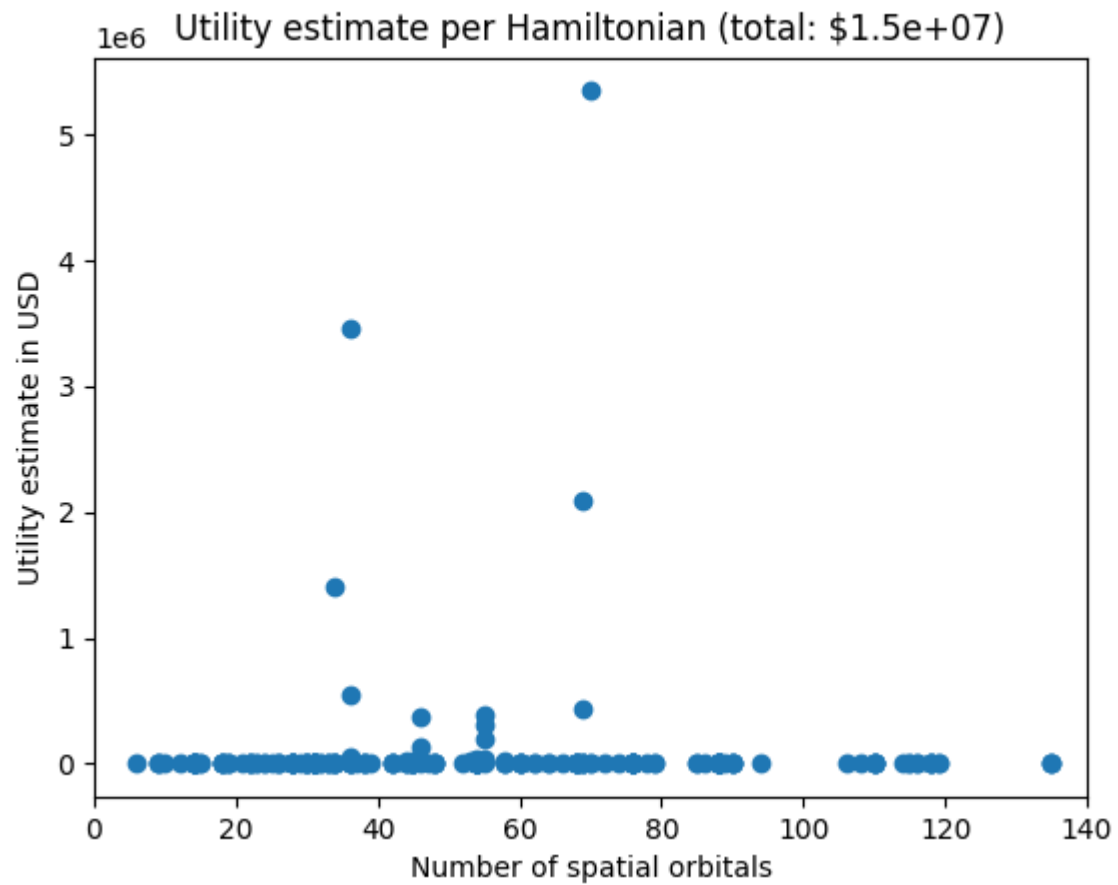
number of Hamiltonians (i.e., tasks): 230

minimum number of orbitals: 6

median number of orbitals: 53.5

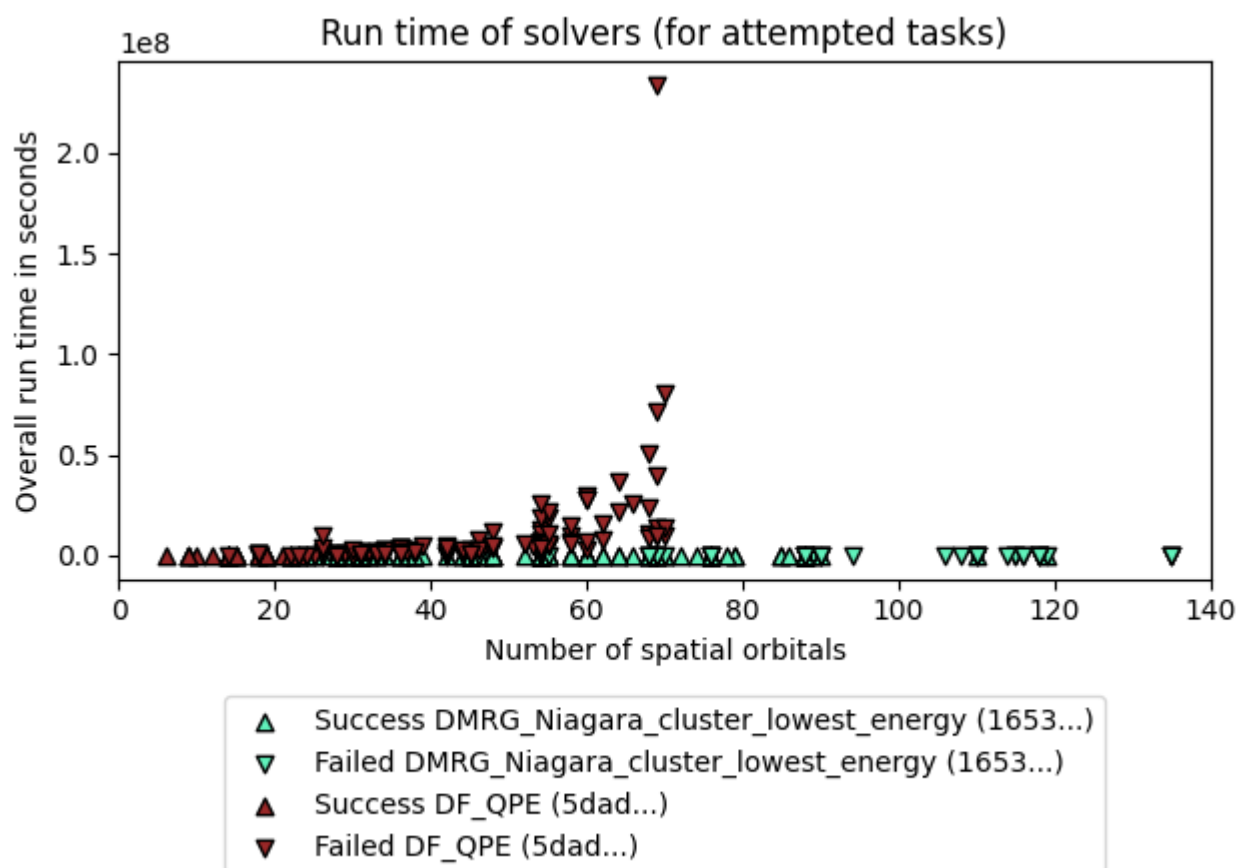
maximum number of orbitals: 135

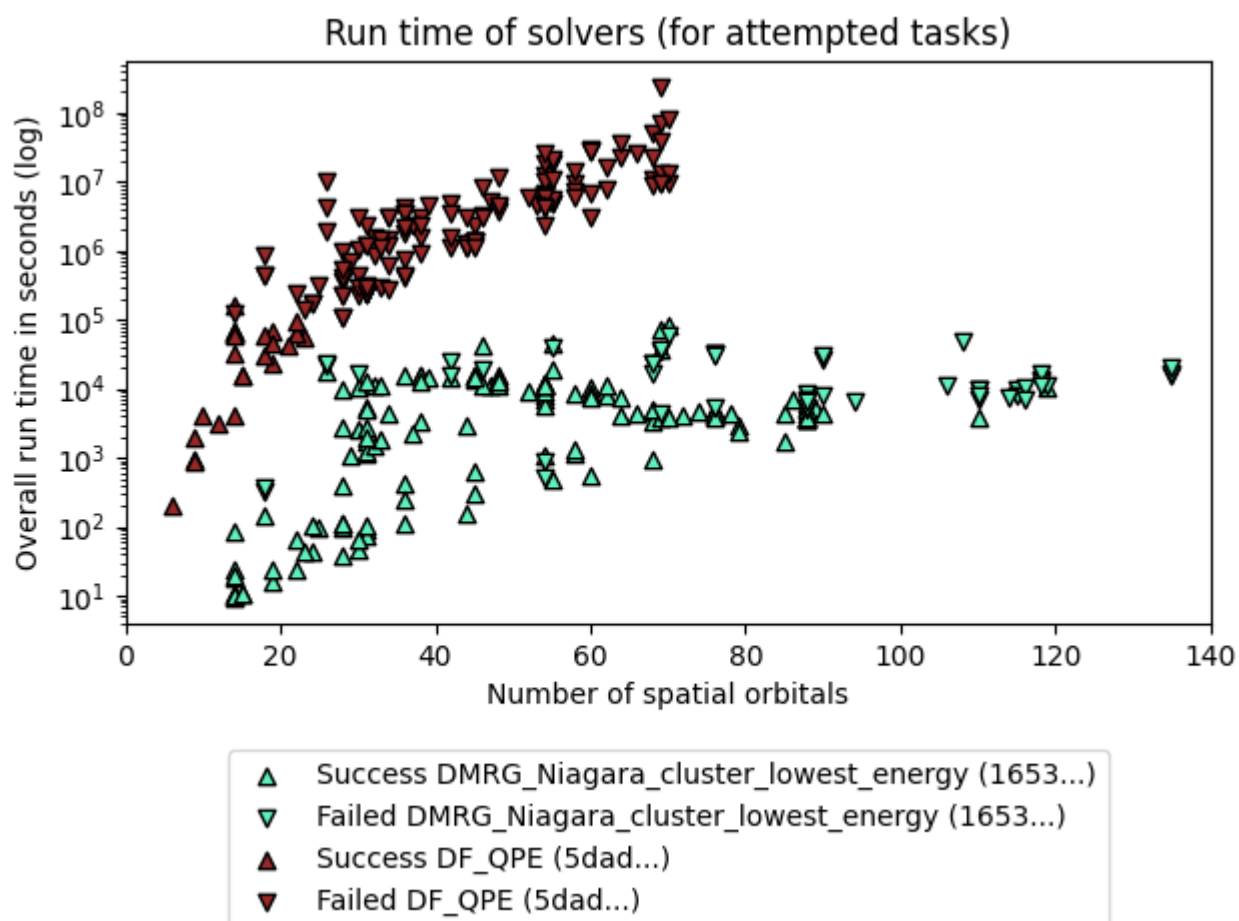




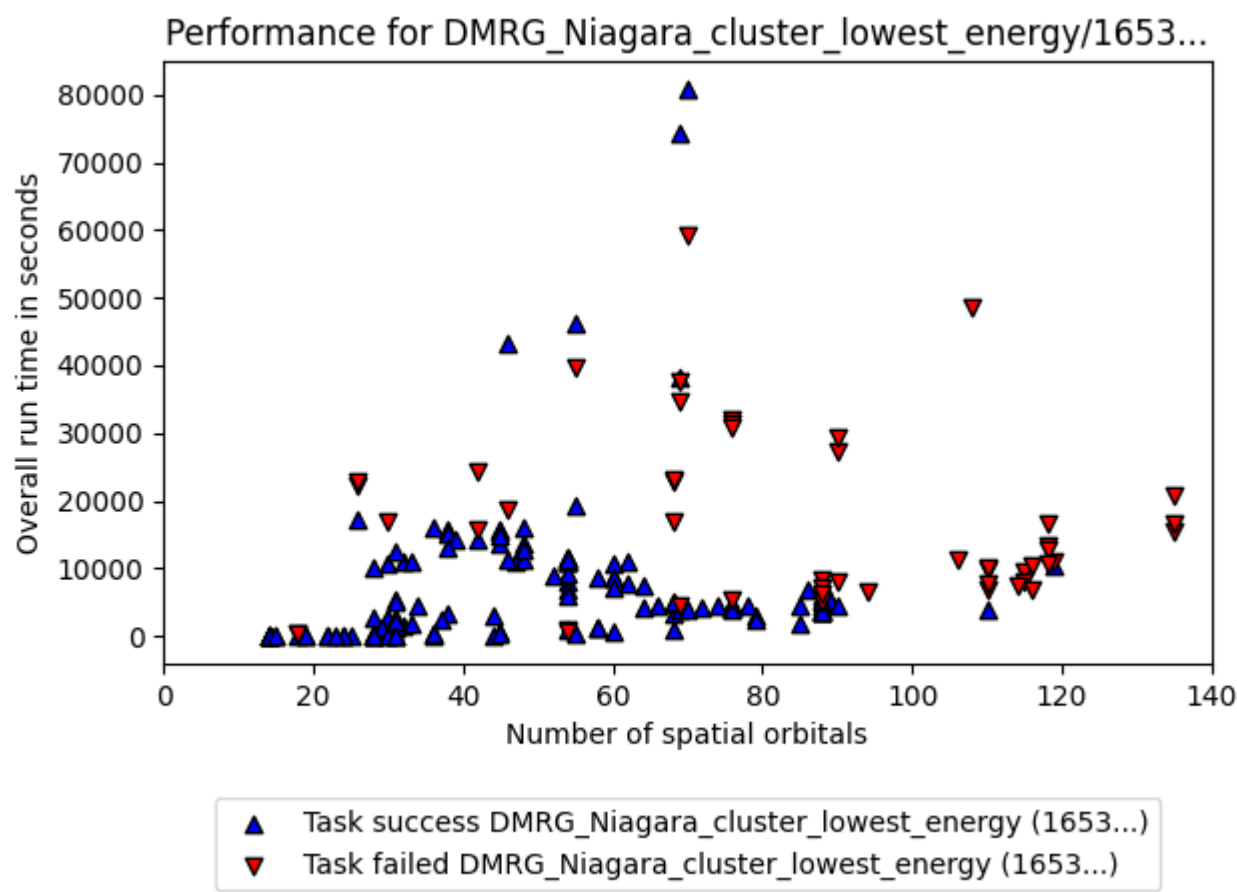
## Solver Summary Statistics

number of unique participating solvers: 2



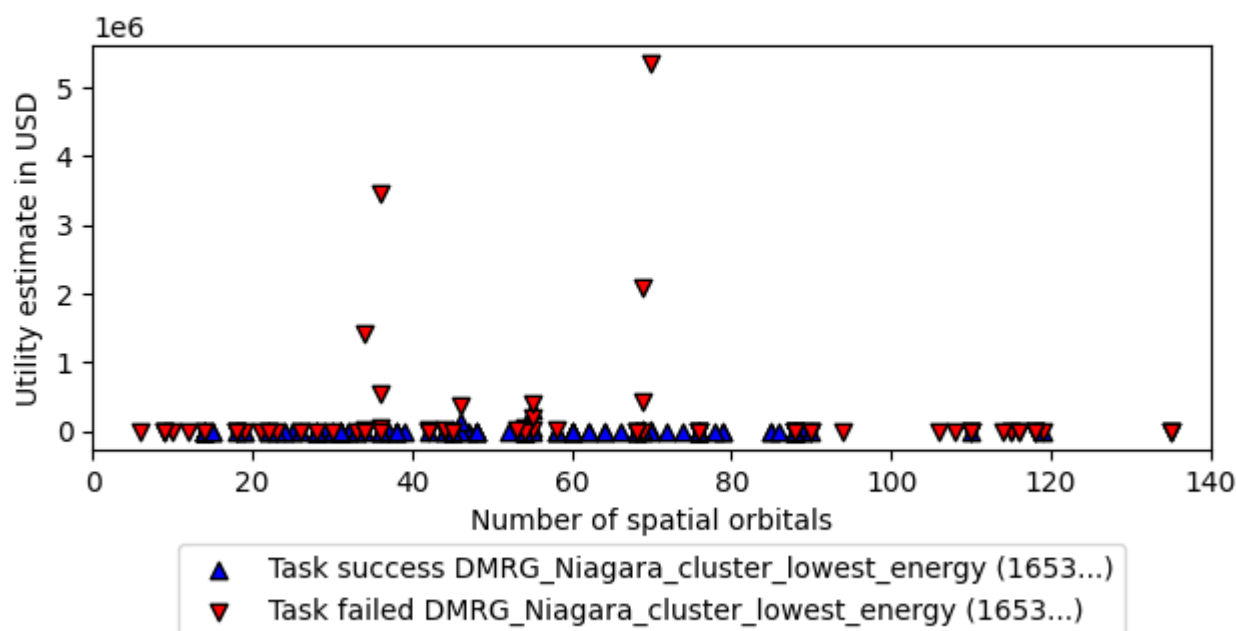


**Solver DMRG\_Niagara\_cluster\_lowest\_energy,  
16537433-9f4c-4eae-a65d-787dc3b35b59**



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: 9b982ac0-5fcd-476b-85f1-3c7b08879e3e

creation\_timestamp: 2025-01-08T14:31:00.488904+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

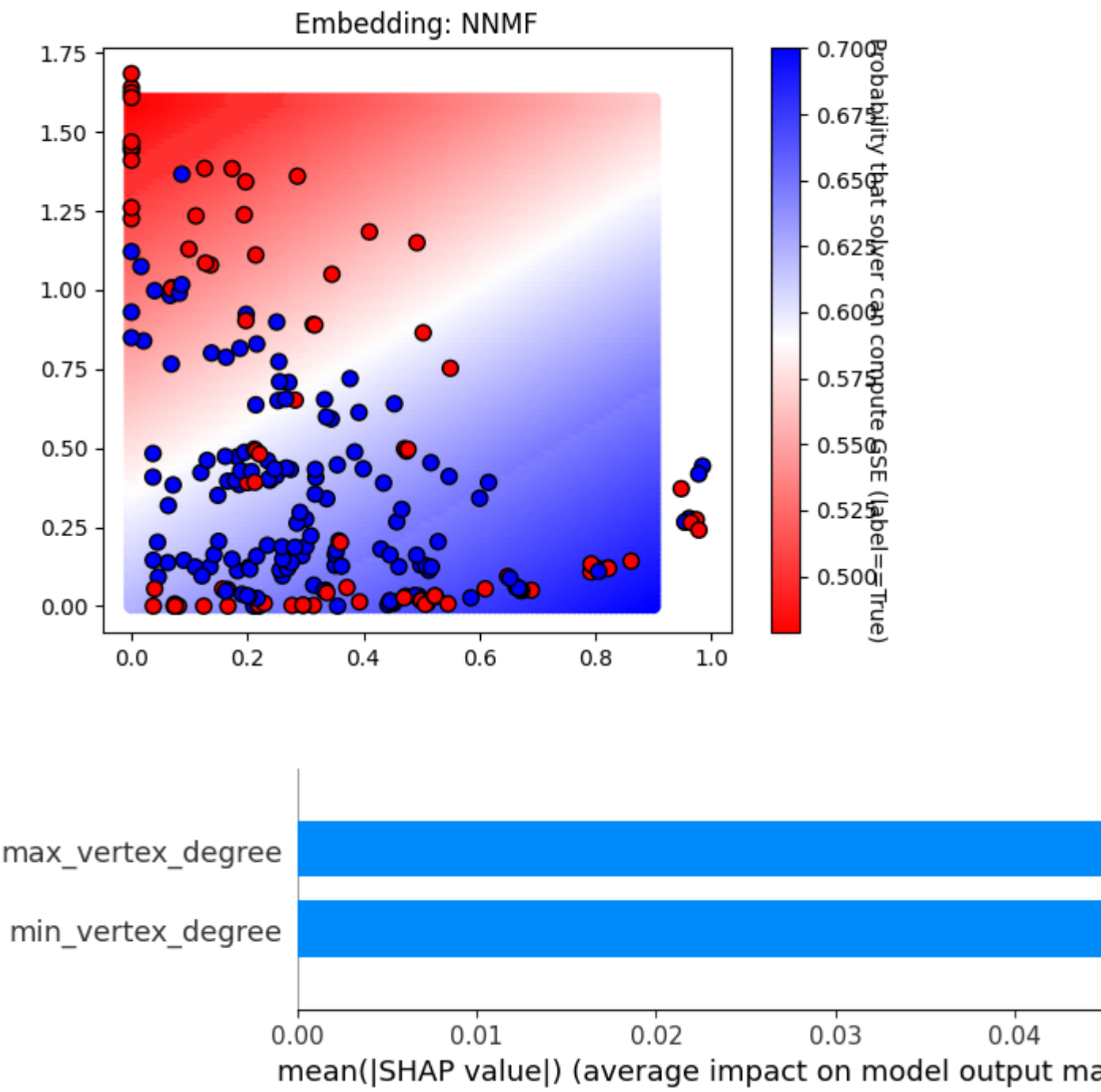
max\_run\_time\_of\_attempted\_tasks: 80820.729907066

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

solvability\_ratio: 0.0

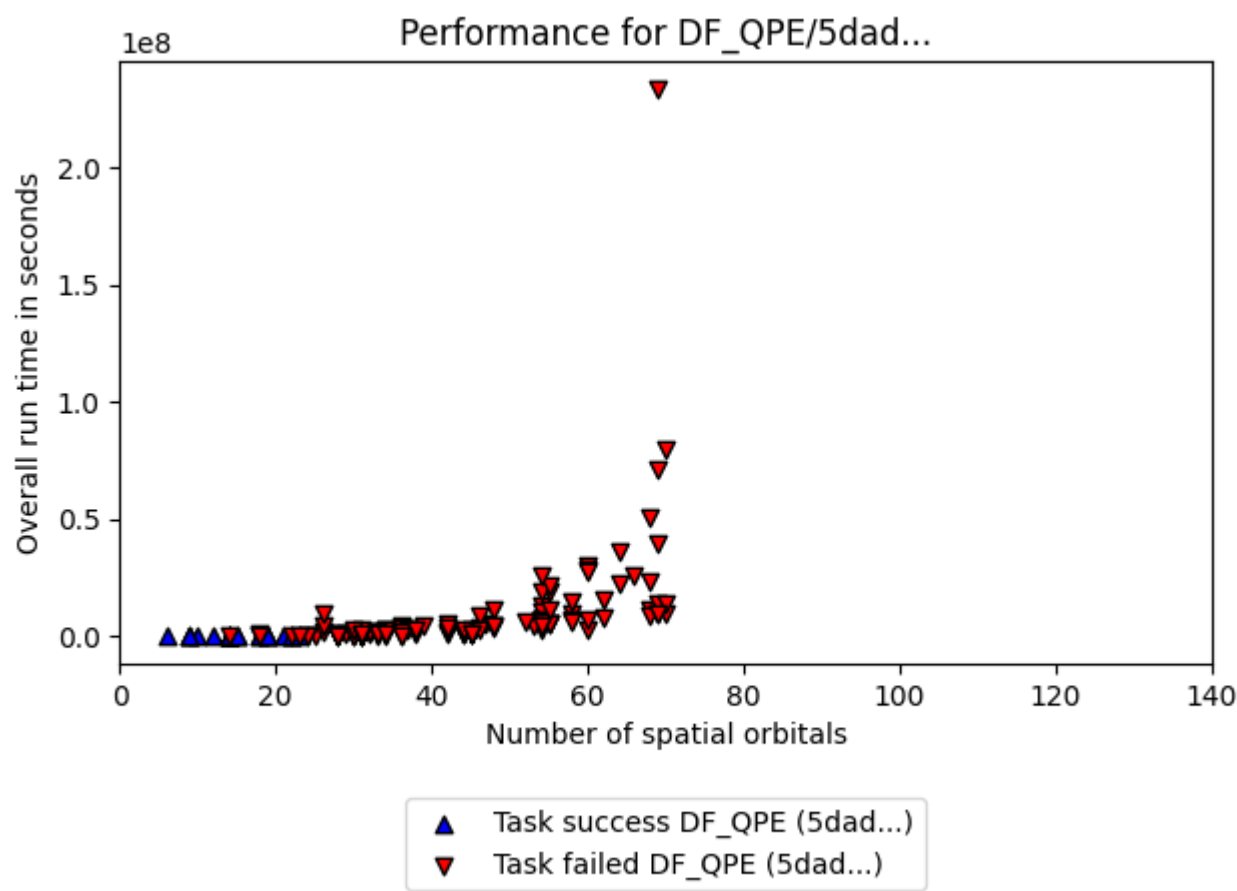
f1\_score: [0.7586206896551724, 0.8531468531468531]

ml\_metrics\_calculator\_version: 1



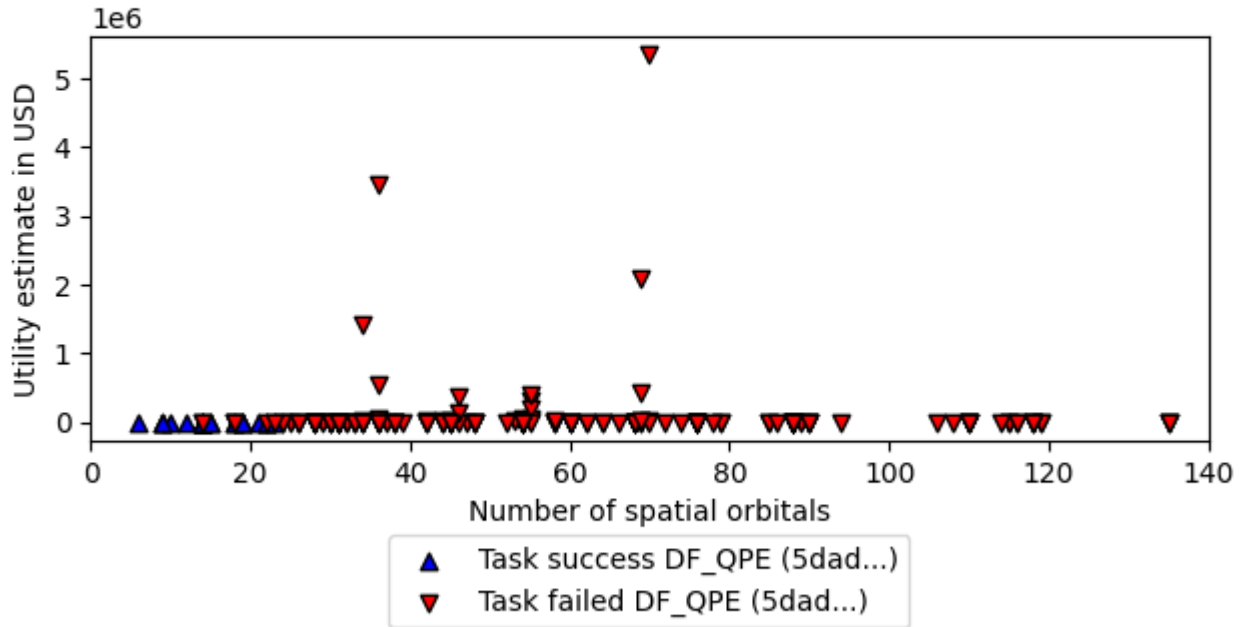


**Solver DF\_QPE, 5dad4064-cd11-412f-85cb-d722afe3b3de**



### 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: c5fbe072-8546-42a5-af09-0c90d853b87c

creation\_timestamp: 2025-01-08T14:31:01.092493+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: 0.0086

f1\_score: [0.9950738916256158, 0.9629629629629629]

ml\_metrics\_calculator\_version: 1

