Model

eqV2

ORB

MatterSim

eqV2 DeNS

ORB MPtrj

SevenNet

MACE

CHGNet

M3GNet

**ALIGNN** 

**MEGNet** 

**CGCNN** 

**BOWSR** 

Dummy

Voronoi RF

CGCNN+P

Wrenformer 0.466 2.256

**GNoME** 

DAF  $\uparrow$  Prec  $\uparrow$  Acc  $\uparrow$  TPR  $\uparrow$  TNR  $\uparrow$  MAE  $\downarrow$  RMSE  $\downarrow$  R<sup>2</sup>  $\uparrow$ 

0.986

0.987

0.955 0.814 0.972 0.035 0.085

0.941 0.045

0.919 0.048

0.893 0.057

0.868 0.063

0.813 0.803 0.813 0.075

0.712 0.718 0.693 0.118

0.687 0.232 0.769 0.124

0.803

0.841 0.672 0.872

0.826 0.585 0.870

0.818 0.605 0.857

0.745 0.719 0.750

0.668 0.535

0.026

0.036

0.093

0.130

0.113

0.110

0.692 0.148

0.138 0.233

0.975 0.910

0.965 0.841

0.922 0.817

0.878 0.796

0.851 0.758

0.957 0.856 0.975

0.941 0.864 0.953

0.924

0.924

0.724 4.252 0.650 0.904 0.818

0.452

0.500 2.563 0.392 0.786 0.693

0.345

0.300

0.241

0.154

0.859 5.646 0.863

0.829 5.523 0.844

0.815 5.042 0.771

0.765 4.702 0.719

0.669 3.777 0.577

0.613 3.361 0.514

0.569 2.882 0.441

0.567 3.206 0.490

0.507 2.855 0.436

0.423 1.964

0.333 1.579

0.185 1

**Training Set** 

17M (MatterSim)

6M (89.0M) (GNoME)

146K (1.6M) (MPtrj)

146K (1.6M) (MPtrj)

146K (1.6M) (MPtrj)

146K (1.6M) (MPtrj)

146K (1.6M) (MPtri)

63K (188.3K) (MPF)

133K (MP Graphs)

155K (MP 2022)

155K (MP 2022)

133K (MP Graphs)

-0.603 155K (MP 2022)

-0.018 155K (MP 2022)

-0.329 155K (MP 2022)

0.848

0.824

0.812

0.785

0.788

0.756

0.750

0.697

0.689

0.585

0.297

-0.248

0.019

0.151

0.072

0.077

0.080

0.085

0.091

0.092

0.101

0.103

0.118

0.154

0.206

0.182

0.186

0.167

0.212

0.184

3M (102.4M) (<u>OMat24</u>+<u>MPtrj</u>)

3M (32.1M) (MPtrj + Alex)

**Model Params Targets Date Added** 

EFS<sub>D</sub>

EFS<sub>D</sub>

EFS<sub>D</sub>

EF<sub>C</sub>

EFS<sub>D</sub>

EFS<sub>D</sub>

EFS<sub>C</sub>

EFS<sub>C</sub>

EFS<sub>C</sub>M

EFS<sub>C</sub>

Е

Ε

Ε

Ε

E

Ε

Ε

2024-10-18

2024-10-11

2024-06-16

2024-02-03

2024-10-18

2024-10-14

2024-07-13

2023-07-14

2023-03-03

2022-09-20

2023-06-02

2022-11-14

2022-12-28

2023-02-03

2022-11-26

2022-11-17

2022-11-26

86.6M

25.2M

182.0M

16.2M

31.2M

25.2M

842.4K

412.5K

227.5K

167.8K

167.8K

26.2M

128.4K (N=10)

128.4K (N=10)

5.2M (N=10)

4.0M

4.7M