

Xiang Zhang

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Education

Shanghai Institute Of Ceramics, Chinese Academy Of Sciences (SICCAS) Jan 2022 - present
Assistant Engineer
Supervisor: Prof. Yiyang Sun

Massachusetts Institute of Technology (MIT) Sep 2016 - Jun 2021
M.S., Materials Science and Engineering
Supervisor: Prof. Jeffrey Grossman
GPA: 4.8/5.0

University of Science and Technology of China (USTC) Sep 2012 - Jun 2016
B.S. with Honors, Condensed Matter Physics
Special Class for the Gifted Young, Yan Jici Talented Students Program
Supervisor: Prof. Jinlong Yang
GPA: 4.11/4.30 Rank: 1/314

University of Oxford Jun 2015 - Sep 2015
Oxford-USTC Summer Exchange Program
Supervisor: Prof. John McGrady

Research

Thermal conductivity of fast-ion conductors using ML potentials and AIMD simulations 2022 - now
Supervisor: Prof. Yiyang Sun, SICCAS

Predicting rare earth activated purple emission phosphors using Graph Neural Networks 2022 - now
Supervisor: Prof. Yiyang Sun, SICCAS

Pathological surface structures on off-stoichiometric PbS quantum dots 2020 - 2021
Supervisor: Prof. Jeffrey Grossman, MIT
Investigated novel pathological structural features on unpassivated PbS quantum dots, characterized synergistically by XRD, lateral displacements, and outlier detection algorithms. Manuscript in preparation.

Neural network potential for PbS quantum dots 2018 - 2019
Supervisor: Prof. Jeffrey Grossman, MIT
Trained and compared neural network force fields using the Behler-Parrinello approach, modified many-body cluster expansion, and recurrent and graph neural networks, using DFT data.

A library, framework and application for automating DFT calculations 2017 - 2019
Supervisor: Prof. Jeffrey Grossman, MIT
Developed a python library for generating, running and maintaining computational jobs; a framework for scheduling concurrent and consecutive jobs using computation graphs; and a sigma.js-based frontend.

High-throughput search for half-metallic double perovskites 2014 - 2016
Supervisor: Prof. Jinlong Yang, USTC
Screened 1600 perovskites for large minority-spin bandgap half-metals using high-throughput DFT.

Novel oxidation states in double perovskites $\text{La}_2\text{MnRhO}_{6-x}$ and $\text{Sr}_2\text{FeIrO}_{6-x}$ 2015
Supervisor: Prof. John McGrady, Oxford
Explored the novel electronic and magnetic configurations in planar double perovskites using DFT+U.

Teaching

HPC admin, Grossman group, MIT 2020-2021

TA, 2.081 Plates and Shells: Static and Dynamic Analysis , Prof. W. M. van Rees, MIT	Spring 2021
TA, 3.23 Electrical, Optical, and Magnetic Properties of Materials , Prof. Geoffrey Beach, MIT	Fall 2019
TA, 2.671 Measurement and Instrumentation , Dr. Barbara Hughey, MIT	Spring 2017
Tutor, Special Class for the Gifted Young , USTC	Spring 2016

Honors

Guo Moruo Scholarship (top 1%), USTC	2015
National Scholarship (top 5%), USTC	2014, 2013

Language

Programming: Python/Tensorflow, Bash ; C, Fortran, Java/Android, HTML, PHP, JavaScript, Dart
GRE: Verbal 167, Quantitative 170, Analytical Writing 4.5
TOEFL: Reading 30, Listening 30, Speaking 28, Writing 30