

# Haoran Ni

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🌐 [haoran-ni.github.io](https://haoran-ni.github.io)  
🐙 [haoran-ni](https://github.com/haoran-ni)  
📖 Haoran Ni

## Education

- 2023 – 2027 **Carnegie Mellon University** *Pittsburgh, United States*  
**Ph.D. in Materials Science**  
Advisor Prof. Noa Marom  
Research Computational materials modeling, Molecular interfaces, Density functional theory, Machine learning interatomic potentials
- 2020 – 2022 **École Polytechnique Fédérale de Lausanne (EPFL)** *Lausanne, Switzerland*  
**Master of Science in Physics**  
Advisor Prof. Michele Ceriotti  
Research Machine learning interatomic potentials
- 2016 – 2020 **Lanzhou University** *Lanzhou, China*  
**Bachelor of Science in Physics (Honorary Degree)**  
Advisor Prof. Xiaolong Fan  
Research Spintronics  
GPA 4.11; Ranked the 4th out of 227 students in Physics; **Top 2%**

## Publications

- In Preparation Kevin Larkin<sup>†</sup>, **Haoran Ni**<sup>†</sup>, Wen Wen, Saeed Moayedpour, Rithwik Tom, Imanuel Bier, Derek Dardzinski, & Noa Marom. Structure prediction of organic/inorganic interfaces with Genarris.
- JPCL Kevin K. Huguenin-Dumittan<sup>†</sup>, Philip Loche<sup>†</sup>, **Haoran Ni**, & Michele Ceriotti (2023). Physics-inspired equivariant descriptors of nonbonded interactions. *The Journal of Physical Chemistry Letters*, 14(43), 9612-9618.
- Bachelor Thesis **Haoran Ni**, Shuangfeng Li, Qihan Zhang, Jiguang Yao, Yongwei Cui, Xiaolong Fan, & Desheng Xue (2019). Observation of spin-orbit magnetoresistance in CoFeB/heavy metal/MgO with existence of both spin Hall effect and Edelstein effect. *arXiv preprint arXiv:1909.12811.*

Equal contributions are denoted using <sup>†</sup>.

## Awards

- 2025 **Richard King Mellon Foundation Presidential Fellowship**
- 2020 **Hong Kong PhD Fellowship Scheme (HKPFS)** *Declined*
- 2020 Excellent Graduation Thesis at Lanzhou University
- 2018 National English Competition for College Students *Grand Prize*
- 2018 The Scientific Research and Innovation Scholarship *First Prize*
- 2018 Excellent Student Scholarship at Lanzhou University *Third Prize*
- 2018 Outstanding Student of Lanzhou University
- 2017 **National Scholarship**
- 2017 National English Speech Competition for College Students *Bronze Medal*
- 2015 **Chinese Mathematical Olympiad** *First Prize in Jiangsu Province*

## Teaching

2025 Spring Quantum Mechanics of Materials - 27710  
*Grading, Teaching, Recitation*

## Standardized Tests

Oct. 2022 **TOEFL** (110)

- Reading: 30/30
- Speaking: 25/30

- Listening: 26/30
- Writing: 29/30

Oct. 2022 **GRE General** (331 + 4.0)

- Verbal Reasoning: 161/170
- Analytical Writing: 4.0/6.0

- Quantitative Reasoning: 170/170

## Skills

Programming Python, Shell,  $\text{\LaTeX}$ , pine script, C++

Packages PyTorch, SciPy, NumPy, ASE, pymatgen, Transformers, LangChain

DFT FHI-aims, VASP

OS Linux, MacOS, Windows

HPC Slurm, mpi4py

## Leadership & Arts

2023 – 2024 CMU Chinese Students & Scholars Association  
*Executive Board*

2020 – 2022 EPFL Chinese Students & Scholars Association  
*Vice President*

2020 – Now NetEase Cloud Music Artist  
*Amateur Musician*