

Haoran Ni

✉ haorann@andrew.cmu.edu
🌐 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[†], **Haoran Ni**[†], 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[†], Philip Loche[†], **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 [†].

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, \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

倪浩然

✉ haorann@andrew.cmu.edu

🌐 haoran-ni.github.io

🐙 haoran-ni

🏠 Haoran Ni

教育经历

- 2023 – 2027 卡内基梅隆大学 (CMU) 材料科学博士
导师 Prof. Noa Marom
研究方向 计算材料, 分子界面, 密度泛函计算, 机器学习原子势
- 2020 – 2022 洛桑联邦理工学院 (EPFL) 物理学硕士
导师 Prof. Michele Ceriotti
研究方向 机器学习原子势
- 2016 – 2020 兰州大学 理学学士 (物理学)
导师 范小龙教授 (萃英学院荣誉学位)
研究方向 自旋电子学
学分绩 4.11; 院系排名 4/227; 前 2%

论文发表

- 准备中 Kevin Larkin[†], **Haoran Ni**[†], 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[†], Philip Loche[†], **Haoran Ni**, & Michele Ceriotti (2023). Physics-inspired equivariant descriptors of nonbonded interactions. *The Journal of Physical Chemistry Letters*, 14(43), 9612-9618.
- 学士论文 **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.

[†] 标注共同一作.

获奖经历

- 2025 Richard King Mellon Foundation Presidential Fellowship 共 89,560 美元
- 2020 香港政府奖学金 (HKPFS) 已回拒
- 2020 兰州大学优秀毕业论文
- 2018 全国大学生英语竞赛 特等奖 (省第六名)
- 2018 兰州大学科研创新奖学金 一等奖
- 2018 兰州大学优秀学生奖学金 三等奖

2018	兰州大学学生标兵	
2017	国家奖学金	
2017	全国大学生英语演讲比赛	全国铜牌
2017	全国大学生英语竞赛	特等奖 (省第二名)
2015	全国高中生数学联赛	江苏省一等奖
2015	全国高中生化学奥林匹克竞赛	江苏省一等奖

教学经历

2025 春季学期 Quantum Mechanics of Materials - CMU 27710
作业批改, 代课, 习题课

标化考试

2022	托福 (TOEFL) (总分: 110)	
	○ 阅读: 30/30	○ 听力: 26/30
	○ 口语: 25/30	○ 写作: 29/30
2022	GRE General (总分: 331 + 4.0)	
	○ 阅读: 161/170	○ 数学: 170/170
	○ 写作: 4.0/6.0	
2017	英语六级 (总分: 601)	
2016	英语四级 (总分: 634)	

技能

编程语言	Python, Shell, \LaTeX , pine script, C++	编程包	PyTorch, SciPy, NumPy, ASE, pymatgen, Transformers, LangChain
第一性计算	FHI-aims, VASP	操作系统	Linux, MacOS, Windows
高性能计算	Slurm, mpi4py		

课外活动

2023 – 2024	卡内基梅隆大学中国学生学者联合会 (CMU CSSA) 执行主席团
2020 – 2022	洛桑联邦理工学院中国学生学者联合会 (EPFL CSSA) 副主席
2020 – Now	网易云音乐 网易音乐人