

JIE HUANG

PERSONAL DATA

GENDER: Male
 NATIONALITY: Chinese
 ADDRESS: Kide 2501, Department of Applied Physics, Aalto University, Finland
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 WEBSITE: <https://way2ml.github.io>

EDUCATION

05/2023–now | Doctoral Researcher in **Applied Physics**
 Aalto University, Helsinki, Finland, Advisor: [Prof. Adam S. Foster](#)

09/2018–06/2021 | M.S. in **Condensed Matter Physics**
 Wenzhou University, Wenzhou, China, Advisor: [Prof. Shibei Li](#)
 Thesis: “[Applications of machine learning in hydrogen-bond dynamics in bulk water and polymer chains’ structure factor](#)”
GPA: 3.84/4.0

09/2012–06/2016 | B.S. in **Electronic Information Engineering**,
 China West Normal University, Nanchong, China
 Thesis: “[A CCD translation device based on Raspberry Pi](#)”
GPA: 3.22/4.0

SCIENTIFIC PUBLICATIONS

1. **Jie Huang**, Niko Oinonen, Fabio Priante, Filippo Federici Canova, Lauri Kurki, Chen Xu, and Adam S. Foster*, [Improving atomic force microscopy structure discovery via style-translation](#), **npj Computational Materials**, 2025
2. Jonas Heggemann, **Jie Huang**, Simon Aeschlimann, Simon Spiller, Adam S Foster*, and Philipp Rahe*, [Sidestepping Intermolecular Hydrogen Bonds: How Single Water Molecules Adsorb and Assemble on the Calcite \(104\)-\(2x1\) Surface](#), **ACS Nano**, DOI: 10.1021/acsnano.5c05845, 2025
3. Gang Huang and **Jie Huang***, [Revisiting the Thickness of the Air-Water Interface from Two Extremes of Interface Hydrogen Bond Dynamics](#), **Journal of Chemical Theory and Computation**, DOI: 10.1021/acs.jctc.4c00457, 2024
4. **Jie Huang**, Bowen Wang, Hejin Yan, and Yongqing Cai*, [Mechanism of interaction of water above the methylammonium lead iodide perovskite nanocluster: size effect and water-induced defective states](#), **The Journal of Physical Chemistry Letters**, DOI: 10.1021/acs.jpclett.3c02807, 2024
5. **Jie Huang**, Gang Huang*, and Shibei Li*, [A machine learning model to classify dynamic processes in liquid water](#), **ChemPhysChem**, DOI: 10.1002/cphc.202100599, 2022, [Cover Article](#)
6. **Jie Huang**, Shibei Li*, Xinghua Zhang*, and Gang Huang, [Neural network model for structure factor of polymer systems](#), **The Journal of Chemical Physics**, DOI: 10.1063/5.0022464, 2020

WORK EXPERIENCE

07/2022 - 04/2023 | Research Assistant, Institute of Applied Physics and Materials Engineering, **University of Macau**, Macau, China. Advisor: [Prof. Yongqing Cai](#)
 1. Density Functional Theory Study of Perovskite Nanoclusters in Aqueous Environment

09/2016 - 04/2018 | **Software Engineer**, FalconPro Technology Co., Ltd, Shanghai, China
 1. **Image processing & Barcode decoding**
 2. **Embedded systems programming**

AWARDS

- 2024 | **Third Place** in AI and ML for Microscopy, Hackathon
- 2021 | **Outstanding Graduate** of Wenzhou University
- 2021 | Award for **Excellent Scientific and Technological Innovation**
- 2020 | **National Scholarship**, Ministry of Education of China
- 2020 | **First-grade Scholarship** for scientific research, Wenzhou University
- 2015 | **National Undergraduate Electronic Design Contest (TI Cup) Second Prize**
- 2015 | **National Professional Software Engineering Design Contest (Bule Bridge Cup) Second Prize**

CERTIFICATES

- 2024 | Coursera certificate from DeepLearning.AI: **Generative Adversarial Networks (GANs)**
- 2018 | MOOC certificate from Peking University: **Artificial Intelligence Practice**
- 2016 | edX certificate from the University of Texas at Austin: **Embedded Systems**
- 2015 | **National Electronics Professionals: Senior Development Engineer of MCU Application**
- 2014 | **National Computer Rank Examination Level 3: Embedded System Development**

SKILLS

Machine Learning, Molecular dynamics (MD) simulations, Embedded Systems Programming, Linux, Git

LANGUAGES

Chinese (native), English (proficient), Japanese (basic), Python, C

ACTIVITIES

- 01/2025 - 06/2025 | **Teaching assistant** for PHYS-E0412 - Computational Physics D, Aalto University
- 2021/11 | Teaching **"Introduction to Deep Learning"** for postgraduates in Physics , Wenzhou University.
- 09/2019 - 11/2019 | **Teaching assistant** for "C programming language", Beihang University
- 05/2018 - 11/2019 | **System manager** of the Linux cluster, Beihang University

HOBBY PROJECTS

- 2022 | **Guitar Simulations From Wave Equations: Music Demo**
- 2022 | **Huanbu**: A cross-platform and full functional metronome app based on Python
- 2020 | **Adversarial Inverse Reinforcement Learning Implementation** for Mountain Car
- 2019 | **Steady Hand Game Device** Based on Raspberry Pi
- 2016 | **Handheld Game Console** Based on Texas Instruments TM4C123G

Last updated: November 9, 2025