

JIE HUANG

PERSONAL DATA

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

EDUCATION

05/2023–now	Doctoral Researcher in Applied Physics , SIN group 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. Shiben 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](#), **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 Shiben Li*, [A machine learning model to classify dynamic processes in liquid water](#), **ChemPhysChem**, DOI: 10.1002/cphc.202100599, **2022**, **Cover Article**
6. **Jie Huang**, Shiben 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
- 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 - 06/2026 | **Teaching assistant** for PHYS-E0412 - Computational Physics D, Aalto University
- 2021/11 | Teaching “**Introduction to Deep Learning**” for postgraduates in Physics , Wenzhou University.
- 05/2018 - 11/2019 | **System manager** of the Linux cluster, Beihang University

HOBBY PROJECTS

- 2025 | **Sphinx-molview**: A Sphinx extension for interactive 3D molecular visualization
- 2025 | **UP2Git**: A Linux system tray app for uploading files to GitHub
- 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: February 24, 2026