

# JIE HUANG

## PERSONAL DATA

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

## EDUCATION

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05/2023–now	Doctoral Researcher in <b>Applied Physics</b> Aalto University, Helsinki, Finland, Advisor: <a href="#">Prof. Adam S. Foster</a>
09/2018–06/2021	M.S. in <b>Condensed Matter Physics</b> Wenzhou University, Wenzhou, China, Advisor: <a href="#">Prof. Shibei Li</a> Thesis: “ <a href="#">Applications of machine learning in hydrogen-bond dynamics in bulk water and polymer chains’ structure factor</a> ” <b>GPA: 3.84/4.0</b>
09/2012–06/2016	B.S. in <b>Electronic Information Engineering</b> , China West Normal University, Nanchong, China Thesis: “ <a href="#">A CCD translation device based on Raspberry Pi</a> ” <b>GPA: 3.22/4.0</b>

## SCIENTIFIC PUBLICATIONS

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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, [arXiv:2509.02240](#), 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

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07/2022 - 04/2023	Research Assistant, Institute of Applied Physics and Materials Engineering, <b>University of Macau</b> , Macau, China. Advisor: <a href="#">Prof. Yongqing Cai</a> 1. Density Functional Theory Study of Perovskite Nanoclusters in Aqueous Environment
09/2016 - 04/2018	<b>Software Engineer</b> , FalconPro Technology Co., Ltd, Shanghai, China 1. <b>Image processing &amp; Barcode decoding</b> 2. <b>Embedded systems programming</b>

## AWARDS

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- 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

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- 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

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

## LANGUAGES

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Chinese (native), English (proficient), Japanese (Duolingo Score 72), Python, C

## ACTIVITIES

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- 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

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- 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: October 29, 2025