

# 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> , <a href="#">SIN group</a> 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](#), **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

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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
- 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 (basic), 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.
- 05/2018 - 11/2019 | [System manager](#) of the Linux cluster, Beihang University

## HOBBY PROJECTS

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- 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

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