

# Chu Wang | Curriculum Vitae

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🏠 Chu Wang    🏫 Huazhong University of Science and Technology

## EDUCATION

**Huazhong University of Science and Technology**  
*M.E. in Mechanical Engineering – GPA: 3.97/4.0 (90.65/100)*

**Wuhan, CHN**  
*September 2022 - June 2025 (expected)*

**Huazhong University of Science and Technology**  
*B.E. in Flight Vehicle Design and Engineering – GPA: 3.90/4.0 (90.20/100)*

**Wuhan, CHN**  
*September 2018 - June 2022*

## HONORS & SCHOLARSHIPS (selected)

- **2024:** Prestigious National Scholarship, Merit Postgraduate, First-class Academic Scholarship
- **2023:** Merit Postgraduate, First-class Academic Scholarship
- **2022:** Outstanding Graduate, Merit Postgraduate, First-class Academic Scholarship
- **2021:** Merit Student, Scholarship for Academic Excellent

## PUBLICATIONS

- **2024:** C. Wang, J. Wu, Y. Wang, *et al.* **MPIPNet: a multi physics-informed PointNet for solving parametric acoustic-structure systems** (*Engineering with Computers*)
- **2024:** C. Wang, J. Wu, Y. Wang, *et al.* **Dynamic Gaussian Graph Operator: Learning parametric partial differential equations in arbitrary discrete mechanics problems** (*Engineering Applications of Artificial Intelligence*)
- **2024:** Y. Wang, Z. Yu, J. Wu, C. Wang, *et al.* **Adaptive Knowledge Distillation Based Lightweight Intelligent Fault Diagnosis Framework in IoT Edge Computing** (*IEEE Internet of Things Journal*)
- **2024:** Y. Wang, C. Wang, J. Wu, *et al.* **Domain Adaptation-based Edge Computing for Cross-Conditions Fault Diagnosis** (*Measurement*)
- **2024:** Z. Zha, B. Li, X. Zhou, C. Wang, *et al.* **A pointwise weighting prediction variance–high-dimensional model representation model-based global optimization approach for ship hull parametric design** (*Engineering Optimization*)
- **2024:** X. Wang, S. Gao, J. Guo, C. Wang, *et al.* **Deep Learning-Based Integrated Circuit Surface Defect Detection: Addressing Information Density Imbalance for Industrial Application** (*Int. J. Comput. Intell. Syst.*)

## RESEARCH INTERNSHIP

**Microsoft Research Asia** 🇨🇳 – AI4Science Group

*Mar. 2024 - Present*

- Design a unified neural network model that: ❶ supports energy, force and Hamiltonian molecular quantities prediction; ❷ supports multi-modal machine learning force field prediction including periodical boundary, small molecular, and protein systems;
- Process Molecule Dynamics by machine learning force field: ❶ design a transformer-based equivariant graph neural network to promote both the efficiency and the accuracy for massive protein related data. ❷ Generate small molecular structures and DFT simulation datasets for the entire chemical space.

## RESEARCH EXPERIENCE

**Neural Operator-based Deep Learning for PDEs Solving**

*2023 – 2024*

- By constructing dynamic graph neural network, the neural operator framework based on wavelet transformation for constant uniform discrete scheme is extended to solve PDEs on arbitrary discrete schemes in general mechanics and engineering issues. We successfully solved multiple public PDEs benchmarks and overperformed than the state-of-the-art methods.

**Physics Informed-based Machine Learning for Acoustic Field Prediction**

*2022 - 2023*

- By driving the deep learning model through acoustic Helmholtz equations, we embedded the governing PDEs into the loss function to construct physical constraints and reduce the dependence of the prediction model on supervised data. We successfully solved the problems of high data acquisition cost and time-consuming introduced by data-driven models.

## COMPETITIONS (selected)

- **2023:** The 20th China Postgraduate Mathematical Contest in Modeling, National Second Prize, Top 1.5%
- **2022:** Mechanical Engineering Innovation and Creativity Competition, National Second Prize, Top 5%

## SKILLS

<b>Programming</b>	Matlab, Python, C/C++, $\LaTeX$
<b>Frameworks</b>	Linux, PyTorch, Tensorflow, Numpy, JAX, OpenCV, DDP, Git, Anaconda
<b>Languages</b>	English (TOEFL: 96 with Speaking: 24)