WENBO KOU

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EDUCATION

Xidian University, Xi'an, P.R.China *Aug, 2018 – Jul, 2022*

Bachelor of Mathematics and Applied Mathematics;GPA: 3.89/4.0

- 2018–2022 Dean's List at Xidian University
- 2019–2020 National Undergraduate Training Programs for Innovation and Entrepreneurship

University of California, Berkeley, Berkeley, CA *Jan, 2021 – Dec, 2021*

Visiting student, EECS & STAT; GPA: 4.0/4.0

- **Selected Courses:** STAT154 Introduction to Statistical Learning; EECS127 Optimization Models in Engineering; CS170 Efficient Algorithms and Intractable Problems; CS61B Data Structures; CS61A Structure and Interpretation of Computer Programs

PUBLICATIONS & MANUSCRIPTS

1 Hao Dong, **Wenbo Kou**, Junyan Han, Jiale Linghua, Minqiang Zou, Cui, Junzhi. A Mixed Wavelet-Learning Method of Predicting Macroscopic Effective Heat Transfer Conductivities of Braided Composite Materials. *Communications in Computational Physics, 2022, 31(2): 593-625.*.

2 **Wenbo Kou**, Dong Hao, Zou Min-Qiang, Han Jun-Yan, Jia Xi-Xi. Hybrid wavelet-based learning method of predicting effective thermal conductivities of hybrid composite materials. *ACTA PHYSICA SINICA, 2021, 70(3): 030701.*

3 Hao Dong, Yufeng Nie, Junzhi Cui, **Wenbo Kou**, Minqiang Zou, Junyan Han, Xiaofei Guan, Zihao Yang. A wavelet-based learning approach assisted multiscale analysis for estimating the effective thermal conductivities of particulate composites. *Computer Methods in Applied Mechanics and Engineering, 2021, 374: 113591.*

RESEARCH EXPERIENCE

Xidian University, Xi'an, P.R.China *Jan, 2021 – June, 2021*
Research Assistant, Advisor: Prof. Tom Luan
Project: Poor Sitting Posture Detection Device

- Employed the extended Kalman filter method to process sensor data and established a physical model of sitting posture using quaternion;
- Proposed a novel approach for sitting posture detection by using two inertial sensors, which can resolve the ambiguity between poor sitting posture and good sitting posture.

Xidian University, Xi'an, P.R.China *Sep, 2019 – Dec, 2020*
Research Assistant, Advisors: Prof. Hao Dong
Project: Research on Neural Network Method for Predicting Thermal Conductivity of Composite Materials

- Applied a wavelet-based learning approach in the prediction of effective thermal conductivities of particulate composites task to reduce storage, computational cost and noise which can be further extended to predict effective mechanical properties of particulate composites.

- Proposed a multi-scale model that integrates the advantages of multi-scale modeling, wavelet transform, artificial neural network (ANN) and asymptotic homogenization method (AHM) for establishment of the material database with high-dimensional and high-complexity mapping.
- Performed numerical experiments on periodic and random particulate composite models to illustrate the outstanding performance of the integrated method.

WORK EXPERIENCE

Artificial Intelligence Engineer, Huawei *Aug, 2022(Expected entry date)*

Machine Learning Engineer Intern, Surreal AI *Feb, 2022 – May, 2022*
Contributor to the company's AI Generation Engine.

- Proposed a face-matching algorithm from real portrait to 3D avatar, which improves the similarity of matching and the beauty of matching results.
- Constructed and cleaned a face dataset and trained the GFPGAN model, resulting in improved quality of human teeth in video content generation.

PROGRAMMING SKILLS

Languages: Python, Java, C, Markdown, Assembly Language

Softwares&Tools: MATLAB, Tensorflow, Pytorch, Git, LaTeX