Guo Jingyu

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EDUCATION

National University of Singapore (NUS) **Aug 2022 – Present**

- M.Sc. in Computing, General Track (GPA: 4.71/5.00)
- Courses: Theory and Algorithms for Machine Learning, Artificial Intelligence, Uncertainty Modelling in AI, Neural Networks and Deep Learning, Knowledge Discovery and Data Mining, etc.

Xi'an Jiaotong University (XJTU) **Sep 2016 – Jun 2020**

- B.Sc. in Engineering, Energy and Power Engineering (GPA: 90.60/100, top 3.6%)
- Scholarship & Honor: Samsung Scholarship, Si Yuan Scholarship, Outstanding Student

University of Minnesota, Twin Cities **Jun 2018 - Aug 2018**

- Summer Exchange (GPA: 4.00/4.00)
- Courses: System Dynamics and Control, Heat Transfer, Balloon & Rockets

PUBLICATION

[1] J. S. Dong, K. Jiang, Z. Liu, C. Dong, Z. Hou, R. S. Hundal, **J. Guo**, and Y. Lin. *"Sports Analytics Using Probabilistic Model Checking and Deep Learning"* in 2023 27th International Conference on Engineering of Complex Computer Systems (ICECCS).

[2] Tong Z X, Li M J*, Yu Y S, **Guo J Y.** *"A Multiscale Method for Coupled Steady-State Heat Conduction and Radiative Transfer Equations in Composite Materials"*, Journal of Heat Transfer, 2021.

[3] Tong Z X, **Guo J Y,** Li M J, Yu Y S. *"An effective and rapid method for heat transfer performance prediction of periodic structure composites at high temperature"*, Chinese patent number: CN112949153A.

[4] *"Temperature field prediction in thermal protection materials"*, Chinese software copyright: 10420535.

RESEARCH EXPERIENCE

Deep learning application in sports (Capstone Project, in progress) **Jan 2023 – Present**

Advisor: Prof. Jin-Song Dong, School of Computing, NUS

- We target to build an intelligent data-driven system to automatically extract match information from tennis broadcast videos, including subtasks like court localization, player action recognition, ball tracking, and game event spotting. Various techniques have been utilized including Computer Vision, Bayesian Estimations, and Camera Calibration, etc.

Studies on the thermal properties of composite materials (Research Assistant) **Sep 2020 – Jul 2021**

Advisor: Prof. Ya-Ling He, Academician of Chinese Academy of Sciences

- A multiscale numerical method is proposed to investigate the coupled conduction-radiation heat transfer in C/SiC composites, which can significantly reduce the computational time of reconstructing temperature and radiation intensity fields while ensuring the computational accuracy.
- Investigate 3D convolutional neural networks as a novel approach to predict thermal properties. The networks learn the mapping from sophisticated material microstructures with phase-property, to effective properties at macro-level.

Numerical simulation on the aircraft icing process (Capstone Project) **Dec 2019 – May 2020**

Advisor: Prof. Ya-Ling He, Academician of Chinese Academy of Sciences

- Numerically simulate the aircraft icing process, analyze the effects of several important environment factors on the ice shape. Our work provides theoretical support for the safe operation of aircraft.

WORK EXPERIENCE

LG Electronics in Korea **Jun 2019 – Jul 2019**

Internship for CFD analysis on air-conditioning design using ANSYS FLUENT

COMPETITION

The 1st prize of National College Students Mathematical Modeling Competition Dec 2017

The 2nd prize of XJTU Mathematical Modeling Competition May 2018

SKILL

Programming: Python, C++, MATLAB, Java

Technical Tool: PyTorch, TensorFlow

Engineering Software: Ansys, SolidWorks, CFD++, Gambit, AutoCAD, Tecplot