SIYUAN WANG

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EDUCATION

Northwestern Polytechnical University, School of Mechanical Engineering Xi'an, China
Ph.D. Candidate in Manufacturing Engineering of Aerospace Vehicle Expected Dec 2028

Northwestern Polytechnical University, School of Mechanical Engineering Xi'an, China
M.Eng. in Mechanics (Unfinished) Sep 2022 – Mar 2024
Transitioned to a Master's-Ph.D. Combined Program in December 2023

Yanshan University, School of Mechanical Engineering Qinhuang Island, China
B.ENG. in Mechanical Design, Manufacturing, and Automation Sep 2018 – Jun 2022
GPA: 3.565 Outstanding Graduates of Hebei Province, 2022

COMPETITION EXPERIENCE

The 9th National College Student Mechanical Innovation Design Competition Sep 2019 – Nov 2020
Team Leader (National Second-Prize; Special Grand Prize of Hebei Province)

- Investigated the difficulties in the daily life of the elderly, under the background of the increasingly serious aging in China
- Designed an intelligent wheelchair that can help the elderly who was paralyzed in bed to use the toilet
- Manufactured the smart wheelchair by purchasing raw materials from Taobao, contacting processors, writing control programs, and constantly debugging

The selection contest of the 6th Hebei College Student Comprehensive Engineering Training Competence Competition Sep – Nov 2019
Team Leader (Second-Prize)

- Designed a gyroscope structure to extend its rotation time
- Learned and became proficient in using a lathe to manufacture gyroscopes
- Improved hand stability to minimize kinetic energy loss when placing the gyroscope on the platform

PROJECT EXPERIENCE

College Student Innovation and Entrepreneurship Training Plan Project
"Fully - automatic Golf Ball Collector Vehicle" Team Leader Aug 2019 – Aug 2020

- Coordinated team member tasks and integrated ideas
- Designed and optimized the overall structure of the golf ball collector vehicle
- Served as the team spokesperson, responsible for project defense

"Image Projection System on the A - pillar of a Car" Team Leader Jul 2020 – Jul 2021

- Conceptualized solutions for eliminating A-pillar blind spots in automobiles and conducted research on the current status
- Debugged image projection software and performed testing on real vehicles
- Prepared project summaries, test reports, and compiled materials for presentations (PPT)

National Key R&D Program of China (No. 2021YFB3401700) Oct 2022 – Dec 2024
Key technologies and equipment for high-performance manufacturing of composite main load-bearing structures for large aircraft

- Constructed a thermal-mechanical coupling model for the forming process of composite panels
- Predicted stress distribution and deformation behavior of composite panels
- Optimized and experimentally verified curing process parameters

National defense project (AVIC Xi'an Aircraft Industry (Group) Co., Ltd) Jan 2023 – Oct 2024
Research on mechanical properties of XXX structural components with Double-Double layup

- Performed basic mechanical property tests on specimens, including tensile, bending, and compression tests
- Compiled test reports from other team members

Basic research project of Wuhan 719 Research Institute Apr – Aug 2023
Research on the Impact of Assembly Accuracy on Key Component Performance Using Simulation Analysis

- Developed a dynamic simulation model of the shaft system
- Identified the effects of different assembly errors on the natural vibration frequencies of the shaft system

PUBLICATIONS

- **Siyuan Wang**, Menglin Zhao, Jialong Zhao, et al. Investigation on mechanical property and failure mechanism of the carbon/glass hybrid laminate bolted joints using acoustic emission. *Tribology International*, 2025, 202: 110284. (Q1, IF 6.1)
- Menglin Zhao, **Siyuan Wang**, Zehong Liu, et al. A semi-analytical method for determining the mode-I delamination R-curve and fiber bridging traction-separation law of Double-double laminates. *Thin-Walled Structures*, 2024, 205: 112383. (Q1, IF 6.4)
- Anyang Wang, Zhongqi Wang*, **Siyuan Wang**, et al. Mechanical behaviour and damage mechanism of static/dynamic interference-fit installation in laminated bolted joint using ultra-thin plies. *Tribology International*, 2024, 194: 109482. (Q1, IF 6.1)
- Yang Zhao, Menglin Zhao, **Siyuan Wang**, et al. Experimental investigation of stacking interface on mode II interlaminar behaviour of self-healable vitrimeric CFRP. *Composites Part A: Applied Science and Manufacturing*, 2024, 185: 108326. (Q1, IF 8.7)

RESEARCH INTERESTS

- Damage monitoring of composite bolted joints
- Application and development of acoustic emission technology
- Application and development of machine learning

ADDITIONAL INFORMATION

Awards: Second Prize of the 9th National College Student Mechanical Innovation Design Competition
Special Grand Prize of the 9th Hebei Undergraduate Mechanical Innovation Design Competition
Second Prize of "Challenge Cup" College Student Curricular Academic Science and Technology Works Competition of Yanshan University
First Prize of "Homestead Creation Competition" of Mechanical Engineering College of Yanshan University

Honors: Outstanding graduate of Hebei Province in 2022
Outstanding graduate of Yanshan University in 2022
Outstanding undergraduate graduation design of Yanshan University in 2022
Outstanding Communist Youth League Cadre of Yanshan University in 2020
Outstanding Communist Youth League member of the School of Mechanical Engineering, Yanshan University in 2019

Computer: Python, Fortran, MATLAB, ABAQUS, Pr, Ps, Solidworks, Visio

Certification: C1 driver's license

Qualification: CET 4, CET 6, Electrician Vocational Qualification Certificate (Intermediate)

Interest: Snooker, Tennis, Murder mystery game