

Zhangliang(Leon) LI

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EDUCATION

Washington University in St Louis **St. Louis, MO**
Master of Science in **Mechanical Engineering** | GPA: **4.0/4.0** Anticipated May 2023

Wuhan University of Technology (WHUT) **Wuhan, China**
Bachelor of Science in **Mechanical Engineering** Sep 2017-Jun 2021
Honors: Second-class Scholarship of 2019-2020; Triple-A Student of 2019-2020

TECHNICAL SKILLS

Programming Language: C++, Java, SolidWorks, CAD, ANSYS, MATLAB

Mechanical Engineer: Material Testing and Analysis, Finite Element Analysis (FEA), Failure Analysis, Corrosion and Wear, Material Processing and Selection, Composite Materials, Product Development, Quality Control

PROJECT EXPERIENCES

Truss Design Robot System Structural Design May 2021-Jul 2021

- Designed a truss robot system with high-speed and high-precision position control using SolidWorks and ANSYS Workbench
- Performed static finite element analysis to generate cloud diagrams of the truss robot's equivalent stress and displacement
- Achieved a refined design with a truss robot system that could reach 0.5m/s running speed with positioning accuracy within 0.1mm

Design of Control System of Infrared Remote-Control Car Jun 2020-Jul 2020

- Conducted analysis on the specific function and performance parameters of the system to select sensors and actuators
- Designed and drew the system hardware schematic diagram and wrote the system control program

Fluid Dynamics in Covid-19 Mar 2020-May 2020

- Collaborated on a research project to measure the effectiveness of wearing a mask in restricting the spread of COVID-19.
- Analyzed particle motion trajectory using ANSYS platform to measure the effectiveness of wearing a mask in restricting the spread of COVID-19.
- Co-authored a published paper titled "The Effects of Whether Wearing the Mask in the Spreading Process of COVID-19."

Design of Medical Cotton Swab Winding Machine Jun 2019-Jul 2019

- Drew up mechanism schemes and elaborated on the principles of operation with three schemes for each mechanism
- Led the protocol for mechanical system motion scheme and calculated mechanism dimensions.

PUBLICATION

[1] Junyi Lin, Sharui Zhang, **Zhangliang Li**, *The Effects of Whether Wearing the Mask in the Spreading Process of COVID-19*, Accepted to publish in International Core Journal of Engineering.

[https://dx.doi.org/10.6919/ICJE.202012_6\(12\).0025](https://dx.doi.org/10.6919/ICJE.202012_6(12).0025)

[2] Cunzhong Li, **Zhangliang Li**, Haoran Wang, Guorong Zhu, and Huai Wang, *Multi-objective Optimization of Capacitor Bank Considering the Parasitic Parameters of Capacitors*. 8th Renewable Power Generation Conference (RPG 2019), Shanghai.

<https://digital-library.theiet.org/content/conferences/10.1049/cp.2019.0677>

PATENTS

[1] The Revoluted Joints of Industrial Robots (Patent No.: 202020837572.6)

[2] A Balanced Training Platform that Combines Testing and Active-Passive Training (Patent No.: 201921748204.8)

[3] Movement Detection of Patients During Weight Loss Training (Patent No.: 201921748053.6)

ADDITIONAL

Language: Chinese (Native), English (Fluency)