Wang Zhuoyang

Ph.D Student, CE

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Clemson University

Passionate about Computer Engineering, I'm dedicated to advancing technology for a sustainable, connected future. With a deep interest in human-centered computing, I aim to push technological boundaries, prioritizing human well-being and happiness.

[**Research Interest**]**Human-centered Computing, Human Factors, AI security, Sensing.**

Education

- **Clemson University** (**South Carolina, United States**)
  Ph.D of Computer Engineering 2024 - ongoing
- **University of Electronic Science and Technology of China(UESTC)** (**Chengdu, China**)
  Bachelor of Electronic Information Engineering 2020 - 2024
- **University of Glasgow(UofG)** (**Glasgow, United Kingdom**)
  Bachelor of Electrical and Electronic Engineering 2020 - 2024

Academic Experience

- **Multi-Site Communication Sensing and Imaging Lab of UESTC** (**Chengdu, China**)
  Undergraduate Researcher 2022.06 - 2023.12
  - Spearheaded the coordination and procurement of laboratory consumables, equipment, and services while ensuring optimal lab organization and maintenance.
  - Played a pivotal role in the development and planning of an undergraduate research agenda, offering specialized mentorship in the area of robotic recognition systems to 20 students.
  - Conducted a comprehensive analysis of potential applications concerning semantic interpretation and task-oriented communication within the scope of the project.
- **Advanced Project Skills Summer School of UofG** (**Glasgow, United Kingdom**)
  Summer Undergraduate Researcher 2023.07 - 2023.08
  - Conducted research on Driver-in-the-loop IoTs paradigm under the esteemed supervision of Dr.Guodong Zhao, contributing to advancements in the field
  - Spearheaded the conceptualization, architecture, and successful execution of an independent research project focusing on a rigorous examination of the efficacy of the Driver-in-the-Loop Paradigm.
  - Executed comprehensive driving scenario simulations utilizing the CARLA simulation environment.
  - Engaged in interdisciplinary collaboration with Ph.D. candidates, postdoctoral researchers, and senior scientists from the University of Glasgow, enriching the project through diverse academic perspectives.
  - Presented research findings during the culminating evaluation meeting and was honoured with the Best Software Project Award, underscoring the impact and quality of the work.
- **COVID-19 Research Group of School of Physics, UESTC** (**Chengdu, China**)
  Undergraduate Researcher 2021.12 - 2022.12
  - Investigated COVID-19 transmission dynamics by developing a MultiSpace model, integrating it with a novel SIQS infectious disease model on a scale-free network.
  - Utilized Python to construct multilayer temporal networks and transmission models, employing a heterogeneous mean-field approach for kinetic solutions.
  - Introduced two detection strategies, spontaneous and passive detection, and conducted simulation analysis to evaluate their combined effectiveness in containing epidemics.

- Published a co-first author article named *Disease Transmission with Spontaneous Detection Strategy*(under review), presenting the advantages of a hybrid approach, combining individual-based spontaneous detection with government-based passive detection, for the efficient elimination of infections at the social level.

► **Business Analysis Internship Programme of NTU** (**Singapore**)
Intern 2022.01 - 2022.03

- Collaborated on a research project focused on leveraging intelligent algorithms for health diagnostics, particularly in diabetic retinopathy detection.
- Spearheaded the design, development, and evaluation of a specialized algorithm for the diagnosis of diabetic retinopathy, using computer vision techniques.
- Authored and presented a conference paper detailing the methodologies, findings, and implications of the study. Published paper available at GoogLeNet-based Diabetic-retinopathy-detection.

Teaching Experience

► **Glasgow College, UESTC** (**Chengdu, China**)
Teaching Assistant 2023.08 - on-going

- Served as a teaching assistant for the undergraduate courses like Circuit Analysis and Design, Engineering Project Management & Finance.
- Provided specialized academic assistance to students by clarifying complex theories and helping resolve challenges related to the course.
- Facilitated laboratory sessions, emphasizing the connection between practical applications and theoretical principles while ensuring correct equipment usage.
- Collaborated closely with the lead instructor in formulating and grading assignments and exams.

► **Resa Central Primary School** (**Qinghai, China**)
Volunteer Teacher 2020.09 - 2021.11

- Played a pivotal role in advancing education in Qinghai's remote mountainous areas by delivering both online and in-person lessons in Chinese and Science to local students.
- Conducted classes focused on physical hygiene, disseminating essential information on health and wellness to improve the overall quality of life in the village.

Publications

Bojia Shi, Xiaoya Zhang, **Zhuoyang Wang** et al., "GoogLeNet-based Diabetic-retinopathy-detection," 2022 14th International Conference on Advanced Computational Intelligence (ICACI), Wuhan, China, 2022, pp. 246-249.

Tong Li †, **Zhuoyang Wang**†, Yinxuan Peng, Xinyue Yu, Chuanji Fu, Shiming Cai, Yachun Gao, "The Impact of Spontaneous and Passive Detection Strategies on Infectious Disease Transmission in Multi-Space Communities." *International Journal of Modern Physics C*, 2024 († *co-first author, under review*)

Selected awards & honors

Outstanding Individual in Social Practices, The Model Student Scholarship(2020-2021), The Model Student Scholarship(2021-2022)

Referee

Dr. Yachun Gao
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