Zhenhao Zhao

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Education

George Washington University (GWU) **DC, USA**
Ph.D. Student, Biomedical Engineering *2022.08 - Present*

- **Lab:** Assistive Robotics & Telemedicine (ART-MED) Lab
- **Advisor:** Prof. Chung-Hyuk Park

George Washington University (GWU) **DC, USA**
Master of Science, Computer Science *2020.08 - 2022.08*

- **Lab:** Intelligent Aerospace Systems Lab (IASL)
- **Advisor:** Prof. Peng Wei

Oakland University (OU) **MI, USA**
Exchange Program, Computer Science *2018.08 - 2019.08*

Beijing Information Sci &Tech University (BISTU) **Beijing, China**
Bachelor of Science, Computer Science *2016.09 - 2020.08*

Publications

Conference Publications

- **Zhao, Z.**, Lee, J., Li, Z., Park, C. H., Wei, P., "Vision-based Perception with Safety Awareness for UAS Autonomous Landing", AIAA SCITECH 2023 Forum, National Harbor, MD, Jan. 2023. [Link] [Oral Presentation]

Journal Publications

- Dong, D., Luo, Z., Zheng, Y., Liang, Y., Zhao, P., Feng, L., Wang D., Cao Y., **Zhao Z.**, Ma, Y. "Application of deep learning-based diagnostic systems in screening asymptomatic COVID-19 patients among oversea returnees", The Journal of Infection in Developing Countries, 16(11), 1706-1714, 2022 [Link]

Research Experiences

George Washington University **DC, USA**
Research Assistant *Aug. 2022 - Present*

- **Lab:** Assistive Robotics & Telemedicine (ART-MED) Lab
- **Research Focus:** Design machine learning algorithms to process and analyze medical data.

Research Assistant *Dec. 2021 - Dec. 2022*

- **Lab:** Intelligent Aerospace Systems Lab (IASL)
- **Research Focus:** Design autonomous drone landing algorithms based on machine learning technology.

Tsinghua University **Beijing, China**
Undergraduate Thesis Research *Oct. 2019 - Jun. 2020*

- **Lab:** Knowledge Engineering Group (KEG), Department of Computer Science
- **Advisor**: Prof. Juanzi Li
- **Research Focus**: Data mining and natural language processing.

Industry Experiences

Union Strong Technology Co., LTD **Beijing, China**
Machine Learning Engineer *Mar. 2021 - Aug. 2021*
Project: Optimization of 3D DSA aneurysm segmentation model [Link]

- Building and training the No New U-Net (nnUNet) to do the accurate segmentation for the 3D digital subtraction angiography images.
- The dice coefficient was taken as the evaluation standard, and the accuracy had reached above 90 percent

Infervision Medical Technology Co., LTD **Beijing, China**
Research Assistant *Aug. 2020 - Mar. 2021*
Lab: Institute of Advanced Research (IAR)
Project: Medical Image Processing [Link]

- Deep learning-assisted screening of asymptomatic Covid-19
- Using deep learning model to diagnose tuberculosis

Research Projects

Perception and Avoidance in UAS Landing Using Visual AI **GWU, DC, USA**
Research Project *Dec. 2021 - Dec. 2022*
Lab: IASL, Advisor: Prof. Peng Wei

- UAS vision and perception algorithms [Paper]
- Pedestrians and cars tracking algorithms based on DeepSORT [Paper]
- An autonomous UAS landing algorithm based on deep reinforcement learning [Paper]

Multimodal DNN for Behavior Recognition for Children with ASD **GWU, DC, USA**
Research Project *Aug. 2022 - Present*
Lab: ART-MED Lab, Advisor: Prof. Chung-Hyuk Park

- Design the transformer-based multimodal DNN for ASD children behavior recognition [WCCBT 2023 Poster]

IADL Recognition for MCI through Multimodal Learning **GWU, DC, USA**
Research Project *Aug. 2022 - Present*
Lab: ART-MED Lab, Advisor: Prof. Chung-Hyuk Park

- Collecting data and design a transformer-based multimodal recognition model processing wearable device and visual data [Paper] [UR 2023 Poster]

Relationship mining for intelligent manufacturing companies **THU, Beijing, China**
Undergraduate Thesis *Oct. 2019 - Jun. 2020*
Lab: KEG, Advisor: Prof. Juanzi Li

- Extract and clean data from 13 enterprise declarations
- Construct the enterprise information knowledge graph by Neo4j

Technical Skills

Languages: Python, C, C++, Java, Matlab, R
Technologies/Frameworks: Pytorch, TensorFlow, OpenCV, Neo4j
Research Interest: Computer Vision, Multimodal Learning, Natural Language Processing, Reinforcement Learning