Junzhou Chen

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Education

Hohai University Intelligent science and technology Bachelor 2020 – 2024

- As a member of the Robotics and Computer Vision Laboratory at Hohai University, I have been involved in multiple research projects. My primary research focus has been on robotics and artificial intelligence.
- I am one of the founding members of Xuanjia Ling Technology Co., Ltd, and I hold the position of overseeing the research, development, and sales of law enforcement traffic equipment.
- Average scores: 81

Awards and Certificates

National Excellent Completion training program 2022 **National College Students' innovation and entrepreneurship** June 2022

National Second Prize **Chinese undergraduate computer design contest** August 2022

National Third Prize **Chinese undergraduate computer design contest** August 2021

National Third Prize **Teddy Cup data mining competition** June 2023

Science and technology innovation scholarship April 2022

Publication

Enhancing Nucleus Segmentation with HARU-Net: A Hybrid Attention based Residual U-Blocks Network

Junzhou Chen, Qian Huang, Yulin Chen, Linyi Qian, Chengyuan Yu

IEEE Journal of Biomedical and Health Informatics (Under Review)

CFHA-Net: Context Fusion with Hybrid Attention Network for Nucleus Segmentation

Junzhou Chen, Qian Huang, Chengyuan Yu, Shiyu Miao, Linyi Qian, Yulin Chen

MMM 2024 (Under Review)

Novel distributed multi-camera fusion positioning and mapping system and method

Yang Wu, **Junzhou Chen**, Ziye Wang, Xuebin Ruan

CN114943771A

A Purified Stacking Ensemble Framework for Cytology Classification

Linyi Qian, Qian Huang, Yulin Chen, **Junzhou Chen**

MMM 2024 (Under Review)

A Purified Stacking Ensemble Framework for Cytology Classification

Qian Huang, Wei Zhang, Yulin Chen, **Junzhou Chen**

The Institution of Engineering and Technology (Under Review)

A Voting-Stacking Ensemble of Inception Networks for Cervical Cytology Classification

Linyi Qian, Qian Huang, Yulin Chen, **Junzhou Chen**

arXiv:2308.02781

CytoMix: A Self-Adaptive Data Augmentation Technique for Cytology Classification

Linyi Qian, Qian Huang, Yulin Chen, **Junzhou Chen**

MMAsia 2023 (Under Review)

Sartup Experience

Xuanjia Ling Technology Co., Ltd March 2021 – present

- As a college student entrepreneur, my primary responsibility is to commercialize our team's product, the "Canine Interactive Vest" for police dogs.
- I am responsible for product data processing, practical and ergonomic design, as well as product marketing.
- As the entrepreneurial journey continues, I have accumulated extensive experience in product design and development. I have gained a thorough understanding of the complete product development process through practical implementation.

Research Experience

Multi-vehicle Fleet Control Platform November 2020 - May 2022

Vehicle Design and Interface Design

This project is a joint development initiative between our team and the Institute of Automation, Chinese Academy of Sciences. In this project, I am responsible for the design of individual vehicles within the vehicle swarm and the interface design.

- Designing, assembling, and programming the cluster of vehicles, with the vehicles controlled using ESP8266 and connected through a local area network for coordination.
- The project is based on the Linux system and ROS framework, primarily utilizing C++ and Python for implementation.
- Project link: https://www.bilibili.com/video/BV1Ry4y1E7ED/

Research on Methods to Bridge the Language Barrier between Animals and Machines

May 2021 - October 2022

Equipment Design and Dataset Establishment

- In the project, we equip police dogs with smart vests to provide real-time feedback on the dog's current posture, geographical location, and video information. Additionally, we use sensors on both sides of the vest to convey information to the animals. This project is a key project in Jiangsu Province and has received recognition as an excellent completion in the training and innovation program. I serve as the second-in-command of the team.
- Throughout the project, my responsibilities include designing the equipment for the police dogs, establishing the dataset, and processing the dog's motion data using machine learning techniques to build a real-time posture data model.

Research on Medical Image Processing Methods October 2022 - Present

Segmentation of Overlapping Cell Images

- The project collaborates with a medical image processing company in Nanjing to develop AI-based pathological analysis of cervical cell slice images. This project has the potential to significantly improve the early diagnosis rate of cancer in patients while greatly reducing the workload of medical professionals.
- In this project, the focus is on cell segmentation in Barr's cell slice images, with the technical challenge lying in the segmentation of overlapping cells. To address the limitations of traditional network architectures, an innovative HARU-Net network model has been developed, achieving segmentation accuracy at the state-of-the-art (SOTA) level.
- Code link: https://github.com/Junzhou-Chen/HARU-Net