

Cui Chenglin — CV

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Education

University of Chinese Academy of Sciences *Double 1st-Class, ESI26* **Beijing, China**
Master's degree 2021.09–2024.07
Major in Technology for Computer Applications

Qingdao University **Qingdao, China**
Bachelor's degree 2017.09–2021.07
Major in Intelligence Science and Technology

Major Courses

- Computer Vision(1/39)
- Pattern Recognition
- Deep Learning
- Algorithm Design and Analysis
- Video Processing and Analysis
- Image Processing
- Reinforcement Learning
- Intelligent Robotics

Internships Experience

WAYTOUS | Perception Intern **Beijing, China**
Guide: Pro. Yunfeng Ai 2022.11–present

Project: Key Technologies and Application Demonstration of Large-Scale Open-Pit Mine Robotic Autonomous Transport and Loading/Unloading System
(the National Key R&D Program of China(2022YFB4703700))

- My team is responsible for multi-sensor fusion perception systems, and I am involved in algorithm research, development, and optimization for target detection and tracking.
- I am responsible for the C++ engineering of target detection and tracking, as well as Nvidia Tensor RT acceleration deployment.

Research Projects

- C. Cui, R. Song, X. Li and Y. Ai, "BEVMOT: A multi-object detection and tracking method in Bird's-Eye-View via Spatiotemporal Transformers", 2023 IEEE 26th International Conference on Intelligent Transportation Systems (ITSC), Submission number: 1124. *Top Conference on Intelligent Transportation*
- Y. Ai, R. Song, C. Huang, C. Cui, B. Tian and L. Chen, "A Real-time Road Boundary Detection Approach in Surface Mine Based on Meta Random Forest," in IEEE Transactions on Intelligent Vehicles, doi: 10.1109/TIV.2023.3296767. *IF/JCR: 8.2/Q1*
- Q. Yang, Y. Ai, S. Teng, Y. Gao, C. Cui, B. Tian and L. Chen, "Decoupled Real-Time Trajectory Planning for Multiple Autonomous Mining Trucks in Unloading Areas," in IEEE Transactions on Intelligent Vehicles, doi: 10.1109/TIV.2023.3312813. *IF/JCR: 8.2/Q1*
- C. Huang, R. Song, C. Cui, X. Li, Y. Ai, "Point Cloud Segmentation for Unstructured Region in Surface Mine", 2023 IEEE 26th International Conference on Intelligent Transportation Systems (ITSC), Submission number: 1119. *Top Conference on Intelligent Transportation*
- L. Ren, J. Tang, C. Cui, R. Song and Y. Ai, "An Improved Cloth Simulation Filtering Algorithm Based on Mining Point Cloud," 2021 International Conference on Cyber-Physical Social Intelligence (ICCSI), Beijing, China, 2021, pp. 1-4, doi: 10.1109/ICCSI53130.2021.9736201.

- Y. Ai, X. Yang, R. Song, **C. Cui**, X. Li, "LiDAR-Camera Fusion in Perspective View for 3D project Detection in Surface Mine", in IEEE Transactions on Intelligent Vehicles, *Under submission*.

Patents & Competitions

- Yunfeng Ai, Qingyuan Yang, **Chenglin Cui**, "An anti-collision method, device and system of profiling for mining unmanned vehicle", [P]. Beijing: CN115973196B, 2023-06-16.
- The National Second Prize (Basic Four-wheel Group), 2020 The 15th National College Student Intelligent Car Competition (*Chinese University Class A Competition*)

Professional Skills

- Proficient in TensorRT deployment development in the ROS environment.
- Familiar with common configurations and applications in the Linux system, and adept at using common commands.
- Skillful in Python, acquainted with C++, Matlab and CUDA.
- Proficient in using popular open-source libraries such as PyTorch, TensorFlow2, NumPy, and familiar with MNCV, OpenCV, Matplotlib, Pandas and other common libraries.
- Knowledgeable in deep learning algorithms related to tasks such as classification, segmentation, object detection, and more.
- Familiar with mainstream datasets such as NuScenes, MOTBenchmark, COCO and KITTI.

Positions of Responsibility

- **Teaching assistant** for course - the *Computer Vision: Principles and Applications* (twice)
- **Head of the propaganda Department of the Student Union**: Make promotional posters and edit promotional videos
- **Press Corps**: Write press releases and interview athletes participating in school games

Hobbies

- **Good at** painting and playing erhu.
- **Like** badminton and kpop.
- **Interested in** sociology and psychology.