

ZHIHAO WANG

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🎓 EDUCATION

Harbin Institute of Technology, Weihai Campus, Shandong, China Sep. 2020 – Present

- B.S. in Intelligent Vehicle Engineering, Expected June 2024
- GPA:**92.36**/100 Rank:**3/73** Top:**4.1%** TOEFL:**99** CET6:**639**
- Major courses: Linear Algebra and Analytic Geometry(99), Calculus(96), Circuits and Electronics(99), Environment Perception of Intelligent Vehicle(98), Planning and Decision-Making for Intelligent Vehicle(96), Structure of Automobile(97), Automatic Control Principle(99), Data Mining(94)

🔧 EXPERIENCE

Harbin Institute of Technology's Formula Student Driverless Team Feb. 2021 – Present

Team Leader of Driverless System

Shandong, China – Instructor: Jianfeng Wang

- * Training and Implementation of Yolov5 Model with Nvidia TensorRT for Fast Cone Detections
 - Created customized dataset with data enhancement tricks, used for network training
 - Optimized detection speed through CUDA programming, boosted from less than 50 fps to 140+ fps
 - Migration from x86 PC to ARM platform including Jetson and Huawei Mobile Data Center (MDC)
- * Cones' Visual Features Extraction and Visualization Based on ORB-SLAM2
 - Calibration of a monocular camera and joint calibration between a lidar and a camera
 - Restricted input image with cone detection then extract ORB features from interested regions
 - Projected 2D features to 3D space and utilized ICP algorithm to iterative optimize camera poses
- * Flexible and Multi-use Remote Terminal Control Node via SSH
 - It displays completely and elegantly within a terminal window, able to fit windows' size automatically
 - This auto starts all nodes for autonomous driving, receives and shows messages, displays vehicle status

Tencent Autonomous Driving Simulator Software Development Nov. 2022 – Present

Core Team Member

Shandong, China – Instructor: Quan Wang

- Produced an interface program, transferring virtual camera data from simulator to ROS's sensor_msgs::Image
- Completed structure and content of the class *Environment Perception of Intelligent Vehicle*

Overall Integration Technology Development of Ground Unmanned Vehicles of Beijing

Institute of Aerospace Launch Technology

Mar. 2023 – May. 2023

Core Team Member

Shandong, China – Instructor: Jianfeng Wang

- Formed a new CAN FD program based on Huawei communication rules and deployed it with cross-compile
- Migrated project's all former ROS packages from Jetson to Huawei Mobile Data Center (MDC)

🏆 HONORS AND AWARDS

1st Prize, Silver medal, Award on 2021 Formula Student Autonomous China (delayed by Covid-19) Jun. 2022

1st Prize, Bronze medal, Award on 2022 Formula Student Autonomous China Sep. 2022

1st Prize Scholarship (rank *1st* in major) May. 2023

Other awards: Excellent Student, *2nd Prize* Physics Competition for Colleges in Shandong 2022

⚙️ MISCELLANEOUS

- Personal Website: zhwang.xyz
- Languages: English - *Fluent*, Mandarin - *Native speaker*
- Programming Languages: C++(mastered), Python(skilled), C, Shell, HTML, CSS, Markdown, LaTeX
- Prospective: Fascinated by autonomous driving, currently interested in Neural Radiance Field (NeRF)