Chengdong Zhu

PhD researcher | Electronic Engineering | University of York

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RESEARCH PROFILE

Research in underwater visual localization, image processing and robot system integration. My work connects stereo sensing and controlled data collection with visual SLAM development and evaluation.

EDUCATION

2023 - present
University of York, United Kingdom
PhD researcher in Electronic Engineering

2020 - 2023
China University of Mining and Technology, China
MEng in Mechanical Engineering

2016 - 2020
China University of Mining and Technology, China
BEng in Mechanical Engineering

SELECTED RESEARCH & ENGINEERING

York-Tank - Underwater stereo dataset

Platform integration, stereo calibration and rectification, data acquisition and processing, and SLAM evaluation. The published benchmark contains 16 sequences and 18,948 stereo image pairs.

ROV V1 - Supervised shallow-water research platform

Mechanical design, stereo sensor mounting, electronics and control-interface integration, and shallow-water testing. Public engineering resources: github.com/zhu-chengdong/rov-v1-hardwarex.

Agricultural robotics - Ongoing since September 2026

Camera data acquisition, ROS interfaces and flexible-arm control development, with preparation for hardware commissioning. Hardware validation remains in progress.

SELECTED PUBLICATION & DATA

Chengdong Zhu and Mark Post. York-Tank: A Degradation-Aware and Difficulty-Stratified Stereo Dataset for Underwater Visual SLAM. *Sensors* 26(20), 6567 (2026).
doi.org/10.3390/s26206567

Complete dataset (v2): doi.org/10.5281/zenodo.23347574

TECHNICAL SKILLS

Programming & robotics: C++, Python, ROS
Engineering design & analysis: SolidWorks, ANSYS
Research practice: stereo calibration, image processing, data acquisition and visual SLAM evaluation