

# TONG WU

Tianjin, China

☎ +86 13820806614 ✉ [tongw\\_indus@126.com](mailto:tongw_indus@126.com) 🌐 [JerryIndus](#)

## EDUCATION

**PhD student** | Tianjin University

Sep 2021 – Dec 2025

- PhD student at Atmospheric LiDAR Detection Group
- Scholarship: Tianjin University Second-Class Academic Scholarship

**Master's Degree** | University of Chinese Academy and Sciences

Sep 2017 – Jul 2020

- Focus on Remote Sensing Objects Extraction with Deep Learning
- Scholarship: Academic Scholarship of the University of Chinese Academy of Sciences, The second-class Graduate Scholarship of the Aerospace Information Innovation Institute

**Bachelor's Degree** | Xi'an University of Science and Technology

Sep 2013 – Jul 2017

- Major in Surveying and Mapping Engineering
- Scholarship: National Scholarship

## PROJECTS

**Middle Atmosphere Measurement Technology of Rayleigh LiDAR Based on Dynamic Platform** | PhD

Ongoing

*Tianjin University*

- Personal Responsibilities: 1. The lidar signal denoising algorithm is innovatively designed, which can increase the effective inversion altitude by 2km, reaching the international leading level. 2. It was first proposed to be carried on a correction theoretical model of dynamic platforms.
- Skill: Proficient in various optimization algorithms (WOA, GWO) and denoising algorithms (EEMD, VMD).

**Research and development of rapid collaborative sensing technology for unconventional emergencies** | Master

Jun 2019-Jun 2021

*University of Chinese Academy and Sciences*

- Personal Responsibilities: 1. Participate in the writing of project application forms. 2. Based on object detection and semantic segmentation algorithms, the stacked garbage and buildings were extracted. 3. Carry out spatial analysis of sensor distribution. 4. The analytic hierarchy process was used to construct a fire risk assessment model.
- Skill: Proficient in ArcGIS spatial analysis tools, Analytic Hierarchy method and the Pytorch deep learning framework, familiar with classic object detection algorithms (Faster R-CNN, FCOS) and semantic segmentation algorithms (SegNet, Centermask).

## TECHNICAL SKILLS

<b>Programming Languages</b>	Python, Matlab
<b>Professional software</b>	ENVI, ArcGIS
<b>Operating systems</b>	Linux, Windows
<b>Tools and Environments</b>	Git, GitHub, PyCharm
<b>Language</b>	English : IELTS 6.0

## WORKING EXPERIENCE

**Research Assistance** | Westlake University

August 2020 – August 2021

- Lab: Artificial Intelligence and Biomedical Imaging Laboratory.
- Training a cell classification model for peripheral blood smear (involving sample imbalance: Focal Loss); Training a Tongue Coating Classification Model for Patients with Gastric Diseases (API-Net Comparative Learning).

## PUBLICATIONS

---

### Lead Author

- "Noise reduction for atmospheric Rayleigh lidar based on a hybrid EEMD-VMD-IMWOA method with high retrieval accuracy". Posted in Journal of Atmospheric and Oceanic Technology (2025).
- "Measurement Accuracy and Attitude Compensation of Rayleigh Lidar on an Airborne Floating Platform". Posted in Remote Sensing (2024).
- "Rayleigh Lidar Signal Denoising Method and Applicable Condition". Posted in laser and optoelectronics progress (2025).
- "Improved anchor-free instance segmentation for building extraction from high-resolution remote sensing images". Posted in Remote Sensing (2020).
- "Informal garbage dumps detection in high resolution remote sensing images based on SU-RetinaNet". Posted in remote sensing for land and resources (Chinese, 2020).

### Co-Author

- Meilan Ge et al. (2024), "Raman spectroscopic diagnosis of blast-induced traumatic brain injury in rats combined with machine learning" (Posted in Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy).
- Meilan Ge et al. (2023), "Serum-based Raman spectroscopic diagnosis of blast-induced brain injury in a rat model" (Posted in Biomedical Optics Express).
- Xinqi Li et al. (2023), "Uncertainty evaluation on temperature detection of middle atmosphere by Rayleigh LiDAR" (Posted in Remote Sensing).
- Shijie Li et al. (2023), "Gluing Atmospheric Lidar Signals Based on an Improved Gray Wolf Optimizer" (Posted in Remote Sensing).
- Yijian Zhang et al. (2022), "Rayleigh lidar signal denoising method combined with WT, EEMD and LOWESS to improve retrieval accuracy" (Posted in Remote Sensing).
- Jiatong Cai et al. (2021), "Generalizing nucleus recognition model in multi-source ki67 immunohistochemistry stained images via domain-specific pruning" (Posted in MICCAI).

## PATENT

---

- "A conversion method, system and storage medium for image segmentation samples in computer vision" (CN 111415364 B).
- "Attitude correction method, system and storage medium for space-based Rayleigh lidar signal" (2024115228550).

## CONFERENCES AND MEETINGS

---

**SPIE Meeting** | Real-time Photonic Measurements, Data Management, and Processing VII Nov 2023

- Presented my work on the lidar signal denoising

**Academic Forum for Doctoral Students** | School of Marine Science and Technology Nov 2023

- Presented my work on the lidar signal denoising

## EXTRACURRICULAR AND ENGAGEMENT

---

**Software Designer Qualification Certificate** Aug 2016

- I have an intermediate qualification certificate in software designer.

**Programmer Junior Qualification Certificate** Aug 2015

- I have the Programmer Junior Certificate.

**Blue Bridge Cup Competition** May 2016

- The Blue Bridge Cup competition is a C language programming ability competition, and I have participated in the Blue Bridge Cup competition and won the national third prize.

**Faculty Student Council** Jun 2015

- I was a Fellow of the Faculty Student Council's Financial Support Department.