

TONG WEI

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EDUCATION

Czech Technical University in Prague (CVUT)

Computer Science PhD candidate

Robust Estimation; Computer Vision; Deep Learning.

Sep. 2022 – present, Czech Republic
Supervisor: Jiří Matas, Daniel Barath

Eötvös Loránd University (ELTE)

Computer Science MSc. (AI Specialisation)

AI Principles; Methods and Tools for AI Applications; 3D Computer Vision; AI Robotics; Machine Learning.

Sep. 2020 – Jun. 2022, Hungary
Score: 4.36/5, Excellent graduate (5/5)

Liaoning Technical University (LNTU)

Communication Engineering BSc.

C++ Programming; Advanced Mathematics; Probability Theory and Statistics; Information Theory.

Aug. 2015 – Jun. 2019, China
Score: 3.19/4.5

PUBLICATIONS

- [1] **T. Wei, G. Toliás, J. Matas, and D. Barath. Global-Aware Edge Prioritization for Pose Graph Construction. [CVPR'2026]**
- [2] **T. Wei, P. Lindenberger, J. Matas, and D. Barath. Breaking the Frame: Visual Place Recognition by Overlap Prediction. [WACV'24][code]**
- [3] **T. Wei, Y. Patel, A. Shekhovtsov, J. Matas, and D. Barath, Generalized Differentiable RANSAC. [ICCV'23][code]**
- [4] **T. Wei, J. Matas, and D. Barath, Adaptive Reordering Sampler with Neurally Guided MAGSAC. [ICCV'23][code]**
- [5] Z. Tao, **T. Wei, J. Li, Wavelet Multi-level Attention Capsule Network for Texture Classification. IEEE Signal Processing Letters, 2021, 28: 1215-1219. [SPL'21]**
- [6] S. Lin, K. Chi, **T. Wei, and Z. Tao, Underwater Image Sharpening Based on Structure Restoration and Texture Enhancement. Applied Optics, 2021, 60 (15): 4443-4454. [Optica'21]**

PROJECTS & VISITING

Academic Guest at CVG, ETH Zurich, Oct. to Dec.

Minimal spanning tree-based image pair retrieval for Structure from Motion.

ETH Zurich, 2024

International Computer Vision Summer School (ICVSS)

Italy, 2023

Semester Project: Habit Tracker in Software Technology

Collaborated on developing a habit tracking system with personalized recommendations and motivational quotes for diverse users. Implemented back-end services using FastAPI (Python).

ELTE, 2021

National Project: Research on Common Key Technologies of Testing and Evaluation Services

LNTU, 2020

Focusing on point cloud classification algorithms using attention mechanisms and point projection-based features.

Bachelor Intern Project: 3D Object Detection for Self-Driving Vehicles

Working on learning-based 3D object detection algorithms using multiple sensors at Machine Vision and Pattern Recognition Group, Haixi Institutes, Chinese Academy of Sciences.

China, 2019

INVITED TALKS & SUPERVISION

- Supervisor of a semester project at Mixed Reality course, ETH Zurich** *Switzerland, 2024*
Where am I? Interactive indoor localization and navigation on Magic Leap 2 hardware.
- Invited talk at Computer Vision Winter Workshop (CVWW) 2024** *Slovenia, 2024*
Learning-based RANSAC scoring functions
- Invited talk at Computer Vision Winter Workshop (CVWW) 2023** *Austria, 2023*
Differentiable RANSAC components and applications

AWARD AND SCHOLARSHIP

- Recipient of the Stipendium Hungaricum Master's Scholarship. *2020–2022*
- Honored as an Excellent Master's Student, the first semester, LNTU. *2021*
- First Prize (Band A), National English Competition for College Students (NECCS). *2020*
- Best Bachelor Thesis Award "*3D Object Detection Network for Point Cloud Classification*", LNTU. *2019*

OTHERS

- Review Experience:** CVPR, ECCV, NeurIPS, ICLR
- Technical Skills:** Computer Vision, 3D Reconstruction, Structure from Motion, Pose Graph Construction, Robust Estimation, Image Processing, Image Retrieval, Feature Matching, Deep Learning, Representation Learning
- Programming Skills:** Python, C/C++, PyTorch, Keras, Korina, OpenCV
- Language Skills:** English (fluent), Chinese (native)