QIFAN ZHANG

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EDUCATION

The University of Texas at Dallas
Ph.D. in Computer Science *January 2022 - Present*

The University of Texas at Dallas
M.S. in Computer Science *August 2018 - May 2020*

Nanjing University of Posts and Telecommunications
B.S. in Software Engineering *September 2014 - June 2018*

RESEARCH INTERESTS

My research focuses on computer vision and robot perception, including open-world novel instance detection, segmentation, and hand-object understanding. My work also covers continual learning, knowledge distillation, and efficient adaptation of large vision models. Recently, I have been exploring continual learning for robot policy learning, especially anti-forgetting and forward transfer.

PUBLICATIONS

[1] **From Local Matches to Global Masks: Novel Instance Detection in Open-World Scenes**. **Qifan Zhang**, Sai Haneesh Allu, Jikai Wang, et al. *arXiv preprint, 2026.*

[2] **Continual Distillation Learning: Knowledge Distillation in Prompt-based Continual Learning**. **Qifan Zhang**, Yunhui Guo, and Yu Xiang. *arXiv preprint, 2025.*

[3] **HO-Cap: A Capture System and Dataset for 3D Reconstruction and Pose Tracking of Hand-Object Interaction**. Jikai Wang, **Qifan Zhang**, Yu-Wei Chao, et al. *NeurIPS Datasets and Benchmarks Track, 2025.*

[4] **CaptainCook4D: A Dataset for Understanding Errors in Procedural Activities**. Rohith Peddi, Shivvrat Arya, Bharath Challa, ..., **Qifan Zhang**, et al. *NeurIPS Datasets and Benchmarks Track, 2024.*

[5] **Blur-free Low-light Imaging with Color and Event Cameras**. Nianyi Li, Jinwei Ye, **Qifan Zhang**, et al. *Proceedings of SPIE 11731, Computational Imaging VI, 2021.*

[6] **Co-Calibration and Registration of Color and Event Cameras**. **Qifan Zhang**, Jinwei Ye, Philip Osteen, et al. *ARL-TR-9108, 2020.*

EXPERIENCE

Imaging and Vision Lab, Louisiana State University *August 2020 - May 2021*
Research Assistant

- Conducted research on color and event camera systems, focusing on calibration, registration, low-light imaging, and event-based vision problems.

BRBytes Project *August 2021 - December 2021*
Backend Database Intern

- Developed and maintained backend database components, supported data management workflows, and assisted with project infrastructure and deployment.

Intelligent Robotics and Vision Lab, The University of Texas at Dallas *January 2022 - Present*
Research Assistant, advised by Prof. Yu Xiang

- Conduct research on robot perception, hand-object understanding, open-world instance detection, continual learning, and large vision model adaptation for robotic applications.

PROJECTS

DARPA PTG: Mixed-Reality Kitchen Assistance *May 2022 - November 2022*
Interactive teaching and first-person perception with Microsoft HoloLens 2.

- Built an AR assistant that recognizes task-relevant objects from a first-person view and provides real-time guidance for kitchen activities such as cooking and making coffee.

CAST-STEM Bridge Summer Camp 2024 *June 2024 - July 2024*
Multi-camera hand-object pose estimation for AR/VR and robotics applications.

- Supervised a student project integrating 3D hand reconstruction and 6D object tracking for hand-object interaction understanding.

CAST-STEM Bridge Summer Camp 2025 *June 2025 - July 2025*
Perception-driven robot grasping for simulation and real-world manipulation.

- Supervised a robotics project combining object segmentation, 6D pose estimation, and grasp execution for robot manipulation tasks.

SKILLS

Languages	Python, C, C++, SQL
Tools	PyTorch, OpenCV, CUDA, ROS, Gazebo, Matlab, Adobe Premiere Pro, Linux

SERVICE & LEADERSHIP

- **Reviewer:** BMVC 2026; AAAI 2026; ICCV 2025.
- **Teaching Assistant:** Computer Graphics; Automata Theory; Digital Logic Lab; Artificial Intelligence.
- **Campus Activities:** Class Representative and Student Union Officer at Nanjing University of Posts and Telecommunications.

HONORS & AWARDS

- 2nd Prize CAST STAR Award in CAST-STEM Bridge Summer Camp 2025. *July 2025*
- 2nd Prize CAST STAR Award in CAST-STEM Bridge Summer Camp 2024. *July 2024*
- Research and Teaching Assistantship, The University of Texas at Dallas. *January 2022 - Present*
- Research and Teaching Assistantship, Louisiana State University. *August 2020 - December 2021*
- Excellent Graduation Thesis Award as outstanding graduate. *May 2018*
- Excellent Social Work Scholarship for three consecutive years. *2015 - 2017*
- Honorable Mention in the Mathematical Contest in Modeling. *January 2017*
- First Prize, Jiangsu Province Division, China Undergraduate Mathematical Contest in Modeling. *September 2016*