

Junjie Ye

✉ junjie.ye9901@gmail.com 🏠 [jay-ye.github.io](https://github.com/jay-ye) 🎓 [Google scholar](#)
2638 Portland St., Sierra Apartments, Los Angeles, CA90007, USA

EDUCATION

- University of Southern California** Los Angeles, USA
PhD Student in Computer Science 2023/08 - Present
• Supervisor: [Prof. Yue Wang](#)
- ETH Zürich** Zürich, Switzerland (Remotely)
Robotics Summer School Student 2022/04 - 2022/08
• [ETH Robotics Student Fellowship 2022](#)
• Internship: [CVG Group](#)
- Tongji University** Shanghai, China
MSc in Mechanical Engineering 2020/09 - 2023/03
• Supervisor: [Prof. Changhong Fu](#)
• **Academic Pioneers** in Tongji (10/18584 graduate students)
• Seized the **National Scholarship for Graduate Students** (top 0.8%)
- Tongji University** Shanghai, China
BEng in Mechanical Engineering 2016/09 - 2020/07
• Seized the **National Scholarship** (top 0.8%)
• Granted the honor of **Excellent Graduate Student** in Shanghai (top 2%)

RESEARCH INTERESTS

Visual Perception for Robotics, Large Language Models, Visual Object Tracking, Visual Localization, Domain Adaptation

RESEARCH EXPERIENCE

- GVL Lab, USC** Los Angeles, USA
PhD Student, Supervisor: Prof. Yue Wang 2023/08 - Present
• LLMs as an Agent
– Exploit Large Language Models (LLMs) as a cognitive agent to integrate human-like intelligence into autonomous driving systems (in submission).
- CVG Group, ETH Zürich** Zürich, Switzerland (Remotely)
Robotics Student Fellow, Supervisor: Prof. Marc Pollefeys and Dr. Daniel Barath 2022/04 - 2022/08
• Visual Localization
– Proposed the hybrid RANSAC framework with hybrid correspondence learning for accurate camera pose estimation.
- Computer Vision Lab, ETH Zürich** Zürich, Switzerland (Remotely)
Research Assistant, Advisor: Dr. Danda Pani Paudel 2021/10 - 2021/12
• Domain Adaptive Visual Tracking
– Proposed an unsupervised domain adaptation framework to adapt object tracking from daytime to nighttime, along with a nighttime tracking benchmark (*First-authored* paper accepted by CVPR 2022).
- AR Vision Learning Group, JD.COM Inc.** Beijing, China
Research Intern, mentor: Dr. Shan An 2021/07 - 2021/12
• Intelligent Perception on Embedded Systems
– Proposed a real-time augmented reality shoe try-on system, namely ARShoe, on smartphones (The system is implemented in JD APP; paper accepted by ACM MM2021).
- UAV Lab, Tsinghua University** Beijing, China
Research Assistant, Advisor: Prof. Geng Lu 2021/05 - 2021/06
• Visual Tracking for UAV Self-Localization
– Proposed the response deviation-aware and channel reliability-aware regularizations for CF and constructed a visual tracking-based UAV self-localization system (accepted by IEEE TIE as *first author*).
- Vision4Robotics Group, Tongji University** Shanghai, China
Research Student, Supervisor: Prof. Changhong Fu 2019/06 - 2023/03

- Nighttime Aerial Tracking
 - Constructed a spatial-channel transformer-based enhancer, which is trained in a tracking-related manner, to facilitate nighttime UAV tracking significantly (accepted by *RAL/ICRA2022* as *first author*).
 - Designed a Retinex-inspired plug-and-play deep low-light enhancer to light up the darkness for UAV tracking (accepted by *IROS 2021* as *first author*).
- Siamese Network-Based UAV Tracking
 - Introduced the hierarchical feature transformer into the Siamese framework to achieve interactive fusion of spatial and semantic cues (accepted by *ICCV 2021* as *second student author*).
 - Proposed a scale-channel attention-based Siamese network for unmanned aerial manipulator (UAM) tracking, along with a pioneering UAM tracking benchmark (accepted by *IROS 2022* and extended version in *IEEE TII*, as *second student author*)
- Correlation Filter (CF)-Based UAV Tracking
 - Introduced the interval response inconsistency and the disruptor-aware mechanism into CF framework, realizing competitive performance (accepted by *IEEE TGRS* as *first student author*).

FEATURED PUBLICATIONS (citations>600) (* indicates equal contribution.)

[p1] Jiageng Mao*, **Junjie Ye***, Yuxi Qian, Marco Pavone, and Yue Wang. "A Language Agent for Autonomous Driving" in submission, 2023. [[paper](#)] [[project](#)]

[p2] **Junjie Ye**, Changhong Fu, Guangze Zheng, Danda Pani Paudel, and Guang Chen. "Unsupervised Domain Adaptation for Nighttime Aerial Tracking" in *CVPR*, 2022. [[paper](#)] [[code](#)][[benchmark](#)]

[p3] Bowen Li, Ziyuan Huang, **Junjie Ye**, Yiming Li, Sebastian Scherer, Hang Zhao, and Changhong Fu. "PVT++: A Simple End-to-End Latency-Aware Visual Tracking Framework" in *ICCV*, 2023. [[paper](#)] [[project](#)]

[p4] Ziang Cao, Changhong Fu, **Junjie Ye**, Bowen Li, and Yiming Li. "HiFT: Hierarchical Feature Transformer for Aerial Tracking" in *ICCV*, 2021. [[paper](#)] [[code](#)]

[p5] **Junjie Ye**, Changhong Fu, Ziang Cao, Shan An, Guangze Zheng, and Bowen Li. "Tracker Meets Night: A Transformer Enhancer for UAV Tracking". *IEEE Robotics and Automation Letters (RAL)* with *ICRA presentation*, 2022. (IF: 5.2) [[paper](#)] [[code](#)] [[demo](#)]

[p6] **Junjie Ye**, Changhong Fu, Guangze Zheng, Ziang Cao, and Bowen Li. "DarkLighter: Light Up the Darkness for UAV Tracking" in *IROS*, 2021. [[paper](#)] [[code](#)]

[p7] **Junjie Ye**, Changhong Fu, Fuling Lin, Fangqiang Ding, Shan An, and Geng Lu. "Multi-Regularized Correlation Filter for UAV Tracking and Self-Localization". *IEEE Transactions on Industrial Electronics (TIE)*, 2021. (IF: 7.7) [[paper](#)] [[code](#)]

[p8] Changhong Fu, **Junjie Ye**, Juntao Xu, Yujie He, and Fuling Lin. "Disruptor-Aware Interval-Based Response Inconsistency for Correlation Filters in Real-Time Aerial Tracking". *IEEE Transactions on Geoscience and Remote Sensing (TGRS)*, 2020. (IF: 8.2) [[paper](#)] [[code](#)]

[p9] Guangze Zheng, Changhong Fu, **Junjie Ye**, Bowen Li, Geng Lu, and Jia Pan. "Scale-Aware Siamese Object Tracking for Vision-Based UAM Approaching". *IEEE Transactions on Industrial Informatics (TII)*, 2022. (IF: 12.3) [[paper](#)] [[code](#)]

SELECTED HONORS

Outstanding Thesis Award (top 2% students among all majors, provincial)	Sept. 2023
Excellent Graduate of Shanghai (top 2% students among all majors, provincial)	Jun. 2023
Academic Pioneers in Tongji (top 10 among all 18584 graduate students)	Nov. 2022
National Scholarship for Graduate (top 0.8% students among all majors, national)	Oct. 2022
Outstanding Master Student Scholarship (top 1%, departmental)	Dec. 2021
Outstanding Graduate Student of Tongji (top 1%, departmental)	Dec. 2021
Excellent Graduate of Shanghai (top 2% students among all majors, provincial)	Jun. 2020
National Scholarship (top 0.8% students among all majors, national)	Dec. 2019

SERVICES

Reviewer for CVPR, ECCV, ICCV, NIPS, ICLR, IROS, ICRA, IEEE T-NNLS, and IEEE RA-L, etc.

SKILLS

Programming Languages	Python, Matlab, C++
Libraries	Chinese (native), English (TOEFL: 106, 29R, 29L, 22S, 26W)
	PyTorch, OpenCV