

# Yifei Dong

Ph.D. Student, University of Washington  
Tel: +1-917-355-6197

Email: [yfeidong@uw.edu](mailto:yfeidong@uw.edu)  
LinkedIn: [linkedin.com/in/yifeidong2616](https://www.linkedin.com/in/yifeidong2616)

## SHORT BIOGRAPHY

Yifei Dong is a Ph.D. student at the University of Washington, advised by Prof. Zhi-Qi Cheng. He previously worked as a research assistant at Carnegie Mellon University and a data scientist intern at Graphen. His research focuses on embodied AI, with an emphasis on world models and vision-and-language navigation, integrating language grounding, visual imagination, and planning. He received his M.S. in Electrical Engineering from Columbia University. His first/co-first-author publications include NeurIPS and EMNLP Oral presentations, as well as papers at ECCV, IROS, and ACL.

## EDUCATION

### University of Washington

*Ph.D. in Computer Science and Systems; Advisor: Prof. Zhi-Qi Cheng*

USA  
Sep 2025 - Present

### Columbia University

*M.S. in Electrical Engineering*

Specialization: Data-Driven Analysis and Computation.

Coursework: Machine Learning, Advanced Computer Vision, Database, Statistical Learning, Algorithms.

USA  
Feb 2023

### University of Glasgow

*B.S. in Electronic & Electrical Engineering*

Honours of the Second Class (Division i); Outstanding Graduation Design.

UK  
Jun 2021

## AWARDS

- **Carwein-Andrews PhD Fellowship**, UW, 2025-2026 (\$15,000 annual stipend; 2 recipients annually).
- **Top Scholar Award**, UW Graduate School Fund for Excellence and Innovation (GSFEI), 2025.
- **Oral Presentation**, NeurIPS 2026 (first author; top 0.36% of submissions).
- **Oral Presentation**, NeurIPS 2025 (co-author).
- **Top Reviewer**, NeurIPS 2026.
- **Outstanding Paper Finalist and Oral Presentation**, EMNLP 2024 (top 4.8% of submissions).
- **Best Paper Award** (1 of 2), CVPR 2025 Anti-UAV Workshop.
- **DEI Travel Grant**, ECCV 2026.
- **IEEE RAS Travel Support**, IROS 2026.
- **Graduate School Conference Presentation Award**, UW, 2026.
- **1st Place**, NIST TRECVID 2022 Deep Video Understanding Challenge (Oral).

## SERVICE

- *Competition Organizer*: [RoboWorld Challenge](#), associated with RoboPAD @ NeurIPS 2026.
- *Reviewer*: TPAMI; AAAI (2026, 2027), CVPR (2026), ECCV (2026), IROS (2026), NeurIPS (2026), ICRA (2027).
- *Teaching Assistant*: UW TCSS 458: Computer Graphics (Spring 2026)

## EXPERIENCE

**Research Assistant**: Multimodal Intelligence Lab, University of Washington

Sep 2025 - Present

*Advisor: Prof. Zhi-Qi Cheng; Mentors: Dr. Qi Dai and Prof. Alex Hauptmann.*

- Led the development and open-source release of [LCVN](#), exploring two paradigms for language-conditioned navigation: policy learning in imagined latent space and unified autoregressive action–observation prediction. The work was selected for a **NeurIPS 2026 Oral** (112/30,709 submissions); LCVN serves as the benchmark for the **WorldNav track** of RoboWorld Challenge 2026.
- Introduced [UniWM](#), the first unified, memory-augmented world model to integrate visual navigation planning and imagination within a single multimodal autoregressive backbone. UniWM and LCVN have collectively attracted **440+** GitHub stars.

**Research Assistant**: Carnegie Mellon University

Oct 2022 - Jul 2025

*Mentors: Prof. Zhi-Qi Cheng, Dr. Qi Dai, Prof. Kate Whitefoot, and Prof. Alex Hauptmann.*

- Led [HA-VLN](#) (**460+** GitHub stars), releasing simulation environments and evaluation tools for robot navigation around moving people; HA-VLN 2.0 serves as the benchmark for the **human-aware navigation track** of RoboWorld Challenge 2026.

- Developed SHIELD for the Manufacturing Futures Institute (MFI) project, Digital Twins for Manufacturing Resiliency to Material Supply Disruptions, combining LLMs and domain expertise to identify and assess EV battery supply chain disruption risks.

**Data Scientist Intern:** Graphen, Inc.

Feb 2022 - Dec 2022

*Advisor: Dr. Ching-Yung Lin.*

- Developed language-image pre-training methods for long-form video understanding, making core contributions to Graphen's **1st-place finish worldwide** in the **NIST TRECVID 2022 Deep Video Understanding Evaluation**.

## SELECTED PUBLICATIONS

---

10 selected publications (**7 as first/co-first author**) and 1 preprint.

\* equal contribution

### *World Models & Embodied Navigation*

- **Language-Conditioned World Modeling for Visual Navigation**

Yifei Dong\*, Fengyi Wu\*, Yilong Dai, Lingdong Kong, <3 more authors>, Feng Liu, Siyu Huang, Qi Dai, and Zhi-Qi Cheng  
*NeurIPS 2026 Oral; 0.36% of submissions (112/30,709)*

- **Towards Unified World Models for Visual Navigation via Memory-Augmented Planning and Foresight**

Yifei Dong\*, Fengyi Wu\*, Guangyu Chen, Lingdong Kong, <5 more authors>, Qi Dai, Alexander G. Hauptmann, and Zhi-Qi Cheng  
*ECCV 2026*

- **HA-VLN 2.0: An Open Benchmark and Leaderboard for Human-Aware Navigation in Discrete and Continuous Environments with Dynamic Multi-Human Interactions**

Yifei Dong\*, Fengyi Wu\*, Qi He, Lingdong Kong, <5 more authors>, Qi Dai, Alexander G. Hauptmann, and Zhi-Qi Cheng  
*IROS 2026*

- **GoViG: Goal-Conditioned Visual Navigation Instruction Generation via Multimodal Reasoning**

Fengyi Wu\*, Yifei Dong\*, <5 more authors>, Qi Dai, Alexander G. Hauptmann, and Zhi-Qi Cheng  
*ACL 2026 Findings*

- **Human-Aware Vision-and-Language Navigation: Bridging Simulation to Reality with Dynamic Human Interactions**

Heng Li\*, Minghan Li\*, Zhi-Qi Cheng\*, Yifei Dong, Yuxuan Zhou, Jun-Yan He, Qi Dai, Teruko Mitamura, and Alexander G. Hauptmann  
*NeurIPS 2024 Spotlight*

- **Tiresias: Towards Language-Conditioned World Modeling**

Fengyi Wu\*, Yifei Dong\*, Yetong Sha, <3 more authors>, Qi Dai, Alexander G. Hauptmann, and Zhi-Qi Cheng  
*Preprint, under review*

### *Vision, Language & LLM Applications*

- **SHIELD: LLM-Driven Schema Induction for Predictive Analytics in EV Battery Supply Chain Disruptions**

Zhi-Qi Cheng\*, Yifei Dong\*, <3 more authors>, Jason O'Connor, Alexander G. Hauptmann, and Kate Whitefoot  
*EMNLP 2024 Oral; Outstanding Paper Finalist*

- **Large Language Model Agents in Finance: A Survey Bridging Research, Practice, and Real-World Deployment**

Yifei Dong\*, Fengyi Wu\*, Kunlin Zhang, Yilong Dai, Sanjian Zhang, Wanghao Ye, Sihan Chen, and Zhi-Qi Cheng  
*EMNLP 2025 Findings*

- **Securing the Skies: A Comprehensive Survey on Anti-UAV Methods, Benchmarking, and Future Directions**

Yifei Dong\*, Fengyi Wu\*, <4 more authors>, Jingdong Sun, Siyu Huang, Feng Liu, Qi Dai, and Zhi-Qi Cheng  
*CVPR Anti-UAV Workshop 2025 Best Paper*

- **MaxSup: Overcoming Representation Collapse in Label Smoothing**

Yuxuan Zhou\*, Heng Li\*, Zhi-Qi Cheng, Xudong Yan, Yifei Dong, Mario Fritz, and Margret Keuper  
*NeurIPS 2025 Oral*

- **Semantic Understanding and Evolving Interaction Tracking in Long-form Multimodal Datasets**

Vishal Anand, Yifei Dong, Raksha Ramesh, Zifan Chen, Yun Chen, Linqun Li, and Ching-Yung Lin  
*TRECVID 2022 Oral*