Tianyi Xiong

University of Maryland, College Park

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Education

- **University of Maryland, College Park, USA** — Aug 2023 - Present
  Ph.D. in Computer Science
  - Advisor: Prof. Heng Huang
  - Research Interests: Machine Learning, Computer Vision, Multi-modal foundation models
- **Tsinghua University, China** — Aug 2019 - Jun 2023
  B.Eng. in Computer Science and Technology (with honor)
  - GPA: 3.88 / 4.00; Minor in Statistics

Selected Publications

For a complete list, please visit my Google Scholar profile.

1. **Tianyi Xiong**, Xiyao Wang, Dong Guo, Qinghao Ye, Haoqi Fan, Quanquan Gu, Heng Huang, and Chunyuan Li. "LLaVA-Critic: Learning to Evaluate Multimodal Models". ArXiv preprint, 2024. [paper] [project]
2. **Tianyi Xiong***, Jiayi Wu*, Botao He, Cornelia Fermuller, Yiannis Aloimonos, Heng Huang, and Christopher A. Metzler. "Event3DGS: Event-Based 3D Gaussian Splatting for High-Speed Robot Egomotion" In *8th Annual Conference on Robot Learning*, 2024. (CoRL'24) [paper] [project]
3. Xin Xu*, **Tianyi Xiong***, Zheng Ding, and Zhuowen Tu. "MasQCLIP for Open-Vocabulary Universal Image Segmentation." In *Proceedings of the IEEE/CVF International Conference on Computer Vision*, 2023. (ICCV'23) [paper] [project]

Experience

- *Research Intern* | **ByteDance** — Jun 2024 - Nov 2024
  Mentor: Chunyuan Li — *Bellevue, WA*
  - Developed the **first open-source large multimodal model as a generalist evaluator** to assess model performance across diverse multimodal tasks. Demonstrated its effectiveness in: (i) Judging model responses with image-grounded reasons; (ii) Providing reward signals for preference learning. [LLaVA-Critic, ArXiv'24]
- *Research Intern* | **Microsoft Research Asia** — Jan 2023 - Apr 2023
  Mentor: Zhirong Wu and Steve Lin — *Beijing, China*
  - Utilized **self-supervised ViTs** for generating **instance-level mask proposals** for images and videos, improved existing graph-based segmentation algorithms.
- *Research Intern* | **University of California, San Diego** — Jul 2022 - Nov 2022
  Advisor: Prof. Zhuowen Tu — *Remote*
  - **Unified open-vocabulary image segmentation** into a two-stage pipeline comprising a class-agnostic mask generator and a CLIP-based mask classifier. Proposed **progressive training** for generating unseen masks, developed an effective and efficient strategy of **fine-tuning CLIP** for adaptation. [MasQCLIP, ICCV'23]

Services

- Reviewer of MM'24, CVPRW'24, ICLR'25

Selected Awards

- Outstanding Undergraduate of Department of Computer Science and Technology, Tsinghua University, Jun 2023
- Excellent Comprehensive Scholarship at Tsinghua University, Dec 2021
- China National Scholarship, Sep 2020
- 35th Chinese Physics Olympiad (Final), Second Award, Oct 2018

Skills

- **Programming Languages**: C/C++, Python, Java, R, HTML/CSS, SQL, Assembly, C#
- **Tools and Frameworks**: Git, PyTorch, Vue, Diango, Qt
- **Sports**: soccer school team, Champion of the 2020 Beijing University Soccer League; track and field school team