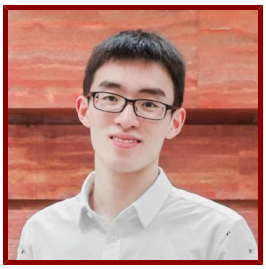
Stanford



Anyi Rao

Postdoctoral Scholar, Computer Science

Bio

BIO

Anyi Rao is a Postdoctoral Scholar at Stanford with Maneesh Agrawala. He has research experiences at Meta Reality Lab, Vector Institute, University of Toronto, Hong Kong University. He received the Ph.D. at MMLab in the Chinese University of Hong Kong in 2022, advised by Dahua Lin and Bolei Zhou. He studies human-centered AI for creativity, multimodality and film, with focuses on content generation, intelligent media editing and creation, semantic and cinematic analysis, aiming to build connections between AI and humans for collaborative intelligence and unleash human creativity and productivity. His works include ControlNet, AnimateDiff, MovieNet, Virtual Dynamic Storyboard, Shoot360, and CityNeRF.

HONORS AND AWARDS

- Marr Prize (Best Paper Award), ICCV (2023)
- Magic Grant, Brown Institue (2023)
- Research Funding by Prime Video, Amazon (2023)
- Grant for Organizing ICCV23 Creative Video Editing and Understanding Workshop, Pika, KAUST (2023)
- Grant for Organizing ECCV22 Creative Video Editing and Understanding Workshop, KAUST (2022)
- Grant for Organizing ICCV21 Creative Video Editing and Understanding Workshop, Adobe (2021)
- Most Influential Papers, Paper Digest (2021)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Program Committee Member and Reviewer, CVPR, ICCV, ECCV, ACCV, SIGGRAPH, SIGGRAPH Asia, CHI, UIST, MM, NeurIPS, ICML, ICLR, AAAI, IJCAI (2021 - present)
- Leading/Key Organizer, CVPR2024/ICCV2023/ECCV2022/ICCV2021 Workshop AI for Creative Video Editing and Understanding (2021 - present)
- Founder, Virtual Film Studio https://virtualfilmstudio.github.io/ (2023 - present)
- Co-Founder, City-Super https://city-super.github.io/ (2021 - present)
- Co-Founder, MovieNet https://movienet.github.io/ (2020 - present)
- Journal Reviewer, IEEE Transactions on Multimedia, IEEE Transactions on Visualization and Computer Graphics, IEEE Transactions on Circuits and Systems for Video Technology, International Journal of Computer Vision (2021 - present)

STANFORD ADVISORS

- Maneesh Agrawala, Postdoctoral Faculty Sponsor

LINKS

- Google Scholar: https://scholar.google.com/citations?hl=en&user=8lKr7j4AAAAJ

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Human AI for Creativity, Computer Vision, Graphics, Human-Computer Interaction

Publications

PUBLICATIONS

- **AnimateDiff: Animate Your Personalized Text-to-Image Diffusion Models without Specific Tuning** *International Conference on Learning Representations*
  Guo, Y., Yang, C., Rao, A., Liang, Z., Wang, Y., Qiao, Y., Agrawala, M., Lin, D., Dai, B.
  2024
- **Adding Conditional Control to Text-to-Image Diffusion Models** *IEEE/CVF International Conference on Computer Vision (ICCV)*
  Zhang, L., Rao, A., Agrawala, M.
  2023
- **Dynamic Storyboard Generation in an Engine-based Virtual Environment for Video Production** *SIGGRAPH Special Interest Group on Computer Graphics and Interactive Techniques Conference Poster*
  Rao, A., Jiang, X., Guo, Y., Xu, L., Yang, L., Jin, L., Lin, D., Dai, B.
  2023
- **Shoot360: Normal View Video Creation from City Panorama Footage** *SIGGRAPH Special Interest Group on Computer Graphics and Interactive Techniques Conference*
  Rao, A., Xu, L., Lin, D.
  2022
- **BungeeNeRF: Progressive Neural Radiance Field for Extreme Multi-scale Scene Rendering** *European Conference on Computer Vision (ECCV)*
  Xiangli, Y., Xu, L., Pan, X., Zhao, N., Rao, A., Theobalt, C., Dai, B., Lin, D.
  2022
- **MovieNet: A Holistic Dataset for Movie Understanding** *European Conference on Computer Vision (ECCV)*
  Huang, Q., Xiong, Y., Rao, A., Wang, J., Lin, D.
  2020
- **HotFlip: White-Box Adversarial Examples for Text Classification** *Annual Meeting of the Association for Computational Linguistics (ACL)*
  Ebrahimi, J., Rao, A., Lowd, D., Dou, D.
  2018
- **HireVAE: An Online and Adaptive Factor Model Based on Hierarchical and Regime-Switch VAE** *International Joint Conference on Artificial Intelligence (IJCAI)*
  Wei, Z., Rao, A., Dai, B., Lin, D.
  2023
- **Self-supervised Action Representation Learning from Partial Spatio-Temporal Skeleton Sequences** *The AAAI Conference on Artificial Intelligence*
  Zhou, Y., Duan, H., Rao, A., Su, B., Wang, J.
  2023
- **A Coarse-to-Fine Framework for Automatic Video Unscreen** *IEEE Transactions on Multimedia (TMM)*
  Rao, A., Xu, L., Li, Z., Huang, Q., Kuang, Z., Zhang, W., Lin, D.
  2022
- **AutoGPart: Intermediate Supervision Search for Generalizable 3D Part Segmentation** *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*
  Liu, X., Xu, X., Rao, A., Gan, C., Yi, L.
  2022
- **BlockPlanner: City Block Generation with Vectorized Graph Representation** *IEEE/CVF International Conference on Computer Vision (ICCV)*
  Xu, L., Xiangli, Y., Rao, A., Zhao, N., Dai, B., Liu, Z., Lin, D.

2021

- **Jointly Learning the Attributes and Composition of Shots for Boundary Detection in Videos** *IEEE Transactions on Multimedia (TMM)*
  Jiang, X., Jin, L., Rao, A., Xu, L., Lin, D.
  2021
- **A Local-to-Global Approach to Multi-Modal Movie Scene Segmentation** *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*
  Rao, A., Xu, L., Xiong, Y., Xu, G., Huang, Q., Zhou, B., Lin, D.
  2020
- **A Unified Framework for Shot Type Classification Based on Subject Centric Lens** *European Conference on Computer Vision (ECCV)*
  Rao, A., Wang, J., Xu, L., Jiang, X., Huang, Q., Zhou, B., Lin, D.
  2020
- **Online Multi-modal Person Search in Videos** *European Conference on Computer Vision (ECCV)*
  Xia, J., Rao, A., Huang, Q., Wen, J., Lin, D.
  2020

PRESENTATIONS

- Controllable Visual Content Generation to Unleash Creativity and Productivity - Netflix
- Creative Video Understanding, Editing and Generation - Art School of UTK
- Human-centred Intelligent Video Creation and Editing - Bay Area Vision Day
- Creative Video Editing and Understanding - ICCV
- Temporal and Contextual Transformer for Multi-Camera Editing - ECCV
- A Local-to-Global Approach to Multi-modal Movie Scene Segmentation - CVPR