SIJIN CHEN

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Homepage | GitHub | Google Scholar

Education

Masters in Artificial Intelligence (GPA 3.56/4.00, rank 30/351) Sep. 2021 - Jun. 2024
Fudan University. Supervised by Prof. Tao Chen. Shanghai, China
Bachelor in Data Science (GPA 3.20/4.00) Sep. 2017 - Jun. 2021
Fudan University. Shanghai, China

Research Interests

Multi-modal Learning, Vision and Language, 3D Scene Understanding, Large Language Models.

Publications and Pre-prints (google scholar)

- End-to-End 3D Dense Captioning with Vote2Cap-DETR.
  Sijin Chen, Hongyuan Zhu, Xin Chen, Yinjie Lei, Gang Yu, Tao Chen.
  [CVPR 2023 | paper | github | youtube]
  [Summary]: We address 3D Dense Captioning as a set prediction problem with parallel decoding.
- LL3DA: Visual Interactive Instruction Tuning for Omni-3D Understanding, Reasoning, and Planning.
  Sijin Chen, Xin Chen, Chi Zhang, Mingsheng Li, Gang Yu, Hao Fei, Hongyuan Zhu, Jiayuan Fan, Tao Chen.
  [Pre-print | project | paper | github]
  [Summary]: An LLM 3D Assistant responds to visual and text interactions in complex 3D scenes.
- Vote2Cap-DETR++: Decoupling Localization and Describing for End-to-End 3D Dense Captioning.
  Sijin Chen, Hongyuan Zhu, Mingsheng Li, Xin Chen, Peng Guo, Yinjie Lei, Gang Yu, Taihao Li, Tao Chen.
  [Pre-print | paper | github]
  [Summary]: Decoupled feature extraction and task decoding for 3D Dense Captioning.
- WI3D: Weakly Incremental 3D Detection via Visual Prompts.
  Mingsheng Li, **Sijin Chen**, Shengji Tang, Hongyuan Zhu, Fukun Yin, Tao Chen.
  [Under Review]
  [Summary]: Introduce novel classes to a pre-trained 3D object detector with 2D foundation models.
- M3DBench: Let's Instruct Large Models with Multi-modal 3D Prompts.
  Mingsheng Li, Xin Chen, Chi Zhang, **Sijin Chen**, Hongyuan Zhu, Fukun Yin, Gang Yu, Tao Chen.
  [Under Review]
  [Summary]: A large scale dataset querying 3D LLMs with text, 2D, and 3D prompts.

Other Projects

Self-Supervised Pre-training on 3D Point Clouds. Oct. 2020 - May. 2021
Undergraduate Thesis supervised by Prof. Tao Chen. Developed a self-supervised learning algorithm that learns global- and patch-level contrastive representations for 3D point clouds.

Scholarships and Awards

First place winner of the Scan2Cap Challenge at ICCV 2023. Oct. 2023
National Award (rank 1/46). Sep. 2023
Second prize of the Scholarship for Outstanding Students at Fudan University. Sep. 2022
Award for the Scholarship for Outstanding Students at Fudan University. Sep. 2021
Second prize of the Scholarship for Outstanding Students at Fudan University. Jun. 2021

Invited Talks

Winner presentation of the Scan2Cap Challenge at ICCV 2023. [slides] Oct. 2023
Paper presentation at the workshop for advances in 3D vision, VALSE 2023. Apr. 2023