YIHENG XIONG

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EDUCATION

Master of Informatics, Technical University of Munich	Oct. 2020 - Dec. 2023
Bachelor of Software Engineering, Nanjing University	Sept. 2016 - Jul. 2020

RESEARCH EXPERIENCE

Research Intern Jan. 2024 - May 2024
TUM 3D AI Lab *Munich, Germany*

- Probabilistic 3D shape generation from a highly-ambiguous RGB image.

Research Assistant Apr. 2022 - Sept. 2022
TUM 3D AI Lab *Munich, Germany*

- Web development for ScanNet200 benchmark;
- iOS app development based on ARKit for ScanNet++ dataset.

PUBLICATIONS

* denotes equal contribution and † denotes shared last authorship.

Y. Xiong, A. Dai. PT43D: A Probabilistic Transformer for Generating 3D Shapes from Single Highly-Ambiguous RGB Images. *BMVC* **2024 (Oral)**.

Arxiv | Code | Video

Y. Xiong*, J. Liu*, K. Zaripova*, S. Sharifzadeh, M. Keicher†, N.Navab†. Prior-RadGraphFormer: A Prior-Knowledge-Enhanced Transformer for Generating Radiology Graphs from X-Rays. *MICCAI workshop* **2023**.

Arxiv | Paper | Code

RESEARCH PROJECTS

Structured Medical Report Generation Apr. 2022 - Jul. 2022
Supervisor: Prof. Nassir Navab *Munich, Germany*

- Developed a structured medical report dataset using radiology graph labels (RadGraph) to support this novel task;
- Proposed Structure Generation Transformer that generates structured reports directly from X-ray images, achieving significantly better performance compared to MLP-based baselines in this new task.

Slides

3D Object Detection and Relocalization in Indoor Scenes Oct. 2021 - Feb. 2022
Supervisor: Prof. Matthias Nießner *Munich, Germany*

- Fine-tuned and modified VoteNet and CenterPoint for object detection on 3RScan and ScanNet datasets, achieving more than a twofold improvement in CenterPoint's performance in terms of mean Average Precision (mAP);
- Redefined the concept of 3D relocalization and conducted extensive experiments with VoteNet and CenterPoint on 3RScan dataset.

Report

SKILLS

Programming Languages	Python, Java, C++, PHP, SQL, Swift
Frameworks & Libraries	PyTorch, TensorFlow
Tools & Environments	Linux, Docker, AWS
Documentation	LaTeX

TEACHING EXPERIENCE

Teaching Assistant   Jan. 2022 - Feb. 2022
Introduction to Informatics (IN8027)   *Munich, Germany*

- Guided students with minimal programming experience, helping them grasp core concepts and build coding skills;

- Provided tailored support during office hours and offered feedback on assignments to enhance learning outcomes.