Jie Liu

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Professional Summary

I am a Ph.D. candidate at the University of Amsterdam. My research aims to develop human-centered machines that augment human capabilities in perception, reasoning, and interaction with the world. To achieve this, I am focusing on the following topics:

- **Human-AI Interaction**: Interactive Segmentation, LLM-based multi-agent cooperation.
- **Efficient Learning**: Vision-language Models, Probabilistic Modelling, Few-shot Segmentation.
- **Generative Models**: Controllable Motion Generation, Diffusion Models, Autoregressive Models.

Education

University van Amsterdam	*Amsterdam*
Ph.D. in CS	Sep. 2021 - Present
Northeastern University	*Shenyang*
MS in EE	Sep. 2018 - June. 2021
North University of China	*Taiyuan*
BS in EE	Sep. 2014 - Jun. 2018

Publications

[1] **Jie Liu**, Jiayi Shen, Pan Zhou, Jan-Jakob Sonke, Efstratios Gavves. "Probabilistic Prototype Calibration of Vision-Language Models for Generalized Few-shot Segmentation," [*Under Review in ICCV2025*]

[2] **Jie Liu**, Zhiheng Yang, Pan Zhou, Lars Johannes Isaksson, Jan-Jakob Sonke, Efstratios Gavves. "ProSeg: Proactive Interactive Medical Segmentation with Click and Slice Recommendation" [*Under Review in MICCAI2025*]

[3] **Jie Liu**, Pan Zhou, Zehao Xiao, Jiayi Shen, Wenzhe Yin, Jan-Jakob Sonke, Efstratios Gavves. "Probabilistic Interactive 3D Segmentation with Hierarchical Neural Process" [*ICML2025*]

[4] **Jie Liu**, Pan Zhou, Yingjun Du, Ah-Hwee Tan, Cess Snoek, Jan-Jakob Sonke, Efstratios Gavves. "Cooperative Plan Optimization for Embodied Multi-agent Cooperation," [*ICLR2025*]

[5] **Jie Liu**, Haochen Wang, Wenzhe Yin, Jan-Jakob Sonke, Efstratios Gavves. "Click Prompt Learning with Optimal Transport for Interactive Segmentation," [*ECCV 2024*]

[6] **Jie Liu**, Wenzhe Yin, Haochen Wang , Yunlu Chen, Jan-Jakob Sonke, Efstratios Gavves. "Dynamic Prototype Adaption with Distillation for Few-shot Point Cloud Segmentation," [*3DV 2024*]

[7] **Jie Liu**, Yanqi Bao, Wenzhe Yin, Haochen Wang, Jan-Jakob Sonke, Efstratios Gavves. "Few-shot Semantic Segmentation with Support-induced Graph Convolutional Network," [*BMVC2022*]

[8] **Jie Liu**, Yanqi Bao, Huan Xiong, Guosen Xie, Jan-Jakob Sonke, Efstratios Gavves. "Dynamic Prototype Convolution for Few-shot Semantic Segmentation," [*CVPR2022*]

[9] Guo-sen Xie*, **Jie Liu***, Huan Xiong, Ling Shao. "Scale-aware Graph Neural Network for Few-shot Semantic Segmentation," [*CVPR 2021*] (*Equal Contribution)

[10] Haochen Wang, **Jie Liu**, Yongtuo Liu, Jan-Jakob Sonke, Efstratios Gavves. "Dynamic Transformer for Few-shot Instance Segmentation," [*ACM Multi Media 2022*]

[11] Guo-Sen Xie, Huan Xiong, **Jie Liu**, Ling Shao. "Few-shot Semantic Segmentation with Cyclic Memory Network," [*ICCV2021*]

[12] Cilin Yan, Haochen Wang, **Jie Liu**, Xiaolong Jiang, Yao Hu, Xu Tang, Guoliang Kang, Efstratios Gavves. "PiClick: Picking the Desired Mask in Click-based Interactive Segmentation," [*TMM2024*]

[13] Wenzhe Yin, Shujian Yu, Yicong Lin, **J Liu**, Jan-Jakob Sonke, Efstratios Gavves. "Domain Adaptation with Cauchy-Schwarz Divergence," [*UAI 2024*]

Awards and Honors

2020	**Scholarship**: "National Scholarship for Postgraduates"	*Shenyang*
2018	**Scholarship**: "National Scholarship for Undergraduates"	*Taiyuan*

Volunteer Services

Conference/Journal Reviewer

ICLR, CVPR, ICCV, ECCV, ACMMM, TPAMI, IJCV