XUEQING DENG

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Google scholar Linkedin

WORK EXPERIENCES

2022/2- present: Research Scientist at ByteDance Seed (Foundation Model) Research, San Jose, United States
Projects: Multi-modal reasoning, and image generation
Managers: Dr.Liang-Chieh Chen and Dr. Xiaohui Shen

2021/5- 2021/11: Research Intern, ByteDance US AI Lab, Mountain View, United States
Projects: Nighttime perception and model distillation
Mentors: Dr. Peng Wang and Dr. Xiaochen Lian

2018/5- 2018/8: Research Intern, Computational Science and Engineering Division, Oak Ridge National Laboratory, Oak Ridge, United States
Projects: Large-scale segmentation on satellite images.
Mentors: Dr. Dalton Lunga and Dr. Lexie Yang

EDUCATION

University of California, Merced
Ph.D. in Electrical Engineering and Computer Science   *2016/8 - 2021/12*
Committee members: Prof. Shawn Newsam (chair), Prof. Ming-Hsuan Yang, and Prof. Shaowen Wang (UIUC)
Sun Yat-Sen University, China   *2012/8 - 2016/6*
B.S. in Remote Sensing Image Processing

WORK UNDER REVIEW

1. Z. Liu, **X. Deng**, S. Chen, A. Wang, Q. Guo, M. Han, Z. Xue, M. Chen, P. Luo, and L. Yang: WorldWeaver: Generating Long-Horizon Video Worlds via Rich Perception, *submitted to NeurIPS 2025*

2. **X. Deng**, Q. Yu, A. Athar, C. Yang, L. Yang, X. Jin, X. Shen, and LC. Chen: COCONut-PanCap: Joint Panoptic Segmentation and Grounded Captions for Fine-Grained Understanding and Generation, *submitted to NeurIPS 2025*

PUBLICATIONS

1. **X. Deng**, L. Yang, Q. Yu, C. Yang, and LC. Chen: Leveraging Panoptic Scene Graph for Evaluating Fine-Grained Text-to-Image Generation, *IEEE/CVF International Conference on Computer Vision (ICCV)*, 2025

2. Q. Yu, J. He, **X. Deng**, X. Shen, and LC. Chen: Randomized autoregressive visual generation, *IEEE/CVF International Conference on Computer Vision (ICCV)*, 2025

3. A. Athar, **X. Deng**, and LC. Chen, ViCaS: A Dataset for Combining Holistic and Pixel-level Video Understanding using Captions with Grounded Segmentation, *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2025

4. C. Yang, C. Liu, **X. Deng**, D. Kim, X. Mei, X. Shen, and LC. Chen, 1.58-bit FLUX , *tech report*, 2024

5. Q. Yu, M. Weber, **X. Deng**, X. Shen, D. Cremers, and LC. Chen: An Image is Worth 32 Tokens for Reconstruction and Generation, *Advances in Neural Information Processing Systems (NeurIPS)*, 2024

6. M. Weber, L. Yu, Q. Yu, **X. Deng**, X. Shen, D. Cremers, and LC. Chen: MaskBit: Embedding-free Image Generation from Bit Tokens, *Transactions on Machine Learning Research (TMLR)*, 2024

7. **X. Deng**, Q. Yu, P. Wang, X. Shen, and LC. Chen: COCONut: Modernizing COCO Segmentation, *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024

8. S. Kim, K. Li, **X. Deng**, Y. Shi, M. Cho, and P. Wang: Enhancing 3D Fidelity of Text-to-3D using Cross-View Correspondences, *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024

9. X. Jin, B. Zhang, W. Gong, K. Xu, **X. Deng**, P. Wang, Z. Zhang, X. Shen, and J. Feng: MV-Adapter: Multimodal Video Transfer Learning for Video Text Retrieval, *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024

10. J. He, Q. Yu, **X. Deng**, X. Shen and LC. Chen: A Simple Video Segmenter by Tracking Objects Along Axial Trajectories, *Transactions on Machine Learning Research (TMLR)*, 2024

11. Q. Yu, J. He, **X. Deng**, X. Shen and LC. Chen: Convolutions Die Hard: Open-Vocabulary Segmentation with Single Frozen Convolutional CLIP, *Advances in Neural Information Processing Systems (NeurIPS)*, 2023

12. **X. Deng**, D. Sun, S. Newsam and P. Wang: DistPro: Searching A Fast Knowledge Distillation Process via Meta Optimization, *European Conference on Computer Vision (ECCV)*, 2022

13. **X. Deng**, P. Wang, X. Lian and S. Newsam: NightLab: A Dual-level Architecture with Hardness Detection for Segmentation at Night, *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022

14. **X. Deng**, Y. Zhu, Y. Tian, and S. Newsam: AutoAdapt: Automated Segmentation Network Search for Unsupervised Domain Adaptation, *CVPR Workshop on Neural Architecture Search*, 2021

15. **X. Deng**, Y. Zhu, Y. Tian, and S. Newsam: Scale Aware Adaptation for Land-Cover Classification in Remote Sensing Imagery, *Winter Conference on Applications of Computer Vision (WACV)*, 8 pages, 2021 (first-round accepted)

16. **X. Deng**, Y. Tian, and S. Newsam: Generalizing Deep Models for Overhead Image Segmentation Through Getis-Ord Gi* Pooling, *International Conference on Geographic Information Science (GIScience)*,14 pages, 2021

17. Z. Shao, W. Zhou, **X. Deng**, M. Zhang: Multi-Label Remote Sensing Image Retrieval Based on Fully Convolutional Network, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing (JSTARS)* , 15pages, 2020

18. Y. Tian, **X. Deng**, Y. Zhu, and S. Newsam: Cross-Time and Orientation-Invariant Overhead Image Geolocalization Using Deep Local Features, *Winter Conference on Applications of Computer Vision (WACV)* , 8 pages, 2020

19. **X. Deng**, H. L. Yang, N. Makkar and Dalton Lunga: Large Scale Unsupervised Domain Adaptation of Segmentation Networks with Adversarial Learning, *International Geoscience and Remote Sensing Symposium (IGARSS), (ORAL)* , 4 pages, 2019

20. Y. Zhu, **X. Deng** and S. Newsam, Fine-Grained Land Use Classification at the City Scale Using Ground-Level Images, *IEEE Transactions on Multimedia* , 14 pages, 2019

21. **X. Deng**, Y. Zhu and S. Newsam: What Is It Like Down There? Generating Dense Ground-Level Views and Image Features from Overhead Imagery Using Conditional Generative Adversarial Networks, *ACM International Conference on Advances in Geographic Information Systems (SIGSPATIAL), (ORAL, acceptance rate: 20%)*, 10 pages, 2018, **Reported by MIT Technology Review**

22. **X. Deng**, Y. Zhu and S. Newsam: Spatial Morphing Kernel Regression for Feature Interpolation, *International Conference on Image Processing (ICIP)*, 4 pages, 2018

23. **X. Deng**, W. Li, X. Liu, Q. Guo and S. Newsam: One-class remote sensing classification: one-class vs. binary classifiers, *International Journal of Remote Sensing (IJRS)*, 21 pages, 2018

24. **X. Deng** and S. Newsam: Quantitative Comparison of Open-Source Data for Fine-Grain Mapping of Land Use, *3rd ACM SIGSPATIAL Workshop on Smart Cities and Urban Analytics (Urban GIS)*, 8 pages, 2017

HONORS AND REWARDS

2021 Graduate Dean's Dissertation Fellowship	*December 2020*
AAG Summer School NSF Student Travel Award	*May 2019*
Bobcat Summer Fellowship, EECS, UC Merced	*2017-2020*
ACM SIGSPATIAL NSF Student Travel Award	*2018,2017*
CRA-W Women in Computer Science Symposium Travel Award	*March 2018*
Student Thesis Award, School of Geography and Planning, Sun Yat-Sen University	*2016*
Academic student scholarship, Sun Yat-Sen University	*2013,2015*

ACADEMIC SERVICES

Conference Reviewer
CVPR 2022-2025; ECCV 2022,2024; ICCV 2023,2025; BMVC 2020; WACV 2020-2023
Webmaster
ACM SIGSPATIAL (2020-2023)
Workshop Chair
ACM SIGSPATIAL Wonshop on GeoAI 2021 and 2022
Journal Reviewer
ISPRS Journal of Photogrammetry and Remote Sensing
IEEE Transactions on Geoscience and Remote Sensing (TGARS)
Journal of Network and Computer Applications (JNCA)