

Xin (Eric) Wang

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CURRENT EMPLOYMENT	Assistant Professor Department of Computer Science and Engineering Jack Baskin School of Engineering University of California, Santa Cruz, CA, USA	2020 - Present
EDUCATION	University of California, Santa Barbara, CA, USA <i>Ph.D.</i> in Computer Science Advisors: William Yang Wang, Yuan-Fang Wang Additional thesis committee members: Matthew Turk, Xifeng Yan	2015 - 2020
	Zhejiang University, Hangzhou, China <i>B.Eng.</i> in Computer Science	2011 - 2015
RESEARCH INTERESTS	Natural Language Processing, Computer Vision, and Machine Learning, with an emphasis on building multimodal embodied agents that can communicate with humans using natural language to perform real-world tasks.	
PREVIOUS EMPLOYMENT	Google AI , Mountain View, CA, USA <i>Research Intern</i> Mentors: Sujith Ravi, Zornitsa Kozareva	Jun. 2019 - Sep. 2019
	Facebook AI Research , Menlo Park, CA, USA <i>Graduate Researcher</i> Mentors: Xinlei Chen, Marcus Rohrbach, Dhruv Batra	Apr. 2019 - Jun. 2019
	Microsoft Research AI , Redmond, WA, USA <i>Research Intern</i> Mentors: Lei Zhang, Asli Celikyilmaz, Jianfeng Gao	Jun. 2018 - Sep. 2018
	Adobe Research , San Francisco, CA, USA <i>Research Intern</i> Mentors: Geoffrey Oxholm, Oliver Wang, Eli Shechtman, Mike Lukac	Jun. 2017 - Sep. 2017
	Adobe Research , San Francisco, CA, USA <i>Research Intern</i> Mentor: Geoffrey Oxholm	Jun. 2016 - Sep. 2016
	Exacloud Inc. , Hangzhou, China <i>Software Engineer Intern</i>	Dec. 2014 - Mar. 2015
	The University of Hong Kong , Hong Kong <i>Visiting Research Assistant</i> Advisor: Yizhou Yu	Jul. 2014 - Sep. 2014

PUBLICATIONS *The conferences and journals listed below are top-tier ones in the corresponding research areas: natural language processing (ACL, NAACL, EMNLP, TACL), computer vision (CVPR, ICCV, ECCV, TPAMI, IJCV), AI and machine learning (AAAI, NeurIPS). The acceptance rates are usually 15-25% for all accepted papers and less than 5% for oral presentations.*

Conference and Journal Papers

- [25] Tsu-Jui Fu, **Xin Eric Wang**, Scott Grafton, Miguel Eckstein, William Yang Wang. “SSCR: Iterative Language-Based Image Editing via Self-Supervised Counterfactual Reasoning”. *The 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2020.
- [24] Wanrong Zhu, **Xin Eric Wang**, William Yang Wang. “Towards Understanding Sample Variance in Visually Grounded Language Generation: Evaluations and Observations”. *The 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2020.
- [23] Jiannan Xiang, **Xin Eric Wang**, William Yang Wang. “Learning to Stop: A Simple yet Effective Approach to Urban Vision-Language Navigation”. *Findings of the 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2020.
- [22] Tsu-Jui Fu, **Xin Eric Wang**, Matthew Peterson, Scott Grafton, Miguel Eckstein, William Yang Wang. “Counterfactual Vision-and-Language Navigation via Adversarial Path Sampling”. *16th European Conference on Computer Vision (ECCV)*, 2020. **Spotlight Presentation**
- [21] **Xin Eric Wang***, Vihan Jain*, Eugene Ie, William Yang Wang, Zornitsa Kozareva, Sujith Ravi. “Environment-agnostic Multitask Learning for Natural Language Grounded Navigation”. *16th European Conference on Computer Vision (ECCV)*, 2020.
- [20] Juncheng Li, **Xin Wang**, Siliang Tang, Haizhou Shi, Fei Wu, Yueting Zhuang, William Yang Wang. “Unsupervised Reinforcement Learning of Transferable Meta-Skills for Embodied Navigation”. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2020.
- [19] Yuankai Qi, Qi Wu, Peter Anderson, **Xin Wang**, William Yang Wang, Chunhua Shen, Anton van den Hengel. “REVERIE: Remote Embodied Visual Referring Expression in Real Indoor Environments”. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2020. **Oral Presentation**
- [18] **Xin Wang**, Qiuyuan Huang, Asli Celikyilmaz, Jianfeng Gao, Dinghan Shen, Yuan-Fang Wang, William Yang Wang, Lei Zhang. “Vision-Language Navigation Policy Learning and Adaptation”. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 2020.
- [17] Pengda Qin, **Xin Wang**, Wenhua Chen, Chunyun Zhang, Weiran Xu, William Yang Wang. “Generative Adversarial Zero-Shot Relational Learning for Knowledge Graphs”. *Thirty-Fourth AAAI Conference on Artificial Intelligence (AAAI)*, 2020. **Oral Presentation**
- [16] **Xin Wang***, Jiawei Wu*, Junkun Chen, Lei Li, Yuan-Fang Wang, William Yang Wang. “VATEX: A Large-Scale, High-Quality Multilingual Dataset for Video-and-Language Research”. *International Conference on Computer Vision (ICCV)*, 2019. **Oral Presentation**
- [15] Ming Jiang, Qiuyuan Huang, Lei Zhang, **Xin Wang**, Pengchuan Zhang, Zhe Gan, Jana Diesner, Jianfeng Gao. “TIGer: Text-to-Image Grounding for Image

- Caption Evaluation”. *2019 Conference on Empirical Methods in Natural Language Processing and 9th International Joint Conference on Natural Language Processing (EMNLP-IJCNLP)*, 2019.
- [14] **Xin Wang**, Qiuyuan Huang, Asli Celikyilmaz, Jianfeng Gao, Dinghan Shen, Yuan-Fang Wang, William Yang Wang, Lei Zhang. “Reinforced Cross-Modal Matching and Self-Supervised Imitation Learning for Vision-Language Navigation”. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2019. **Best Student Paper Award (1/5160 \approx 0.02%)**
- [13] Da Zhang, Xiyang Dai, **Xin Wang**, Yuan-Fang Wang, Larry Davis. “MAN: Moment Alignment Network for Natural Language Moment Retrieval via Iterative Graph Adjustment”. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2019.
- [12] Jiawei Wu, **Xin Wang**, William Yang Wang. “Self-Supervised Dialogue Learning”. *57th Annual Meeting of the Association for Computational Linguistics (ACL)*, 2019.
- [11] Hong Wang, **Xin Wang**, Wenhan Xiong, Mo Yu, Xiaoxiao Guo, Shiyu Chang, William Yang Wang. “Self-Supervised Learning for Contextualized Extractive Summarization”. *57th Annual Meeting of the Association for Computational Linguistics (ACL)*, 2019.
- [10] Dinghan Shen, Asli Celikyilmaz, Yizhe Zhang, Liqun Chen, **Xin Wang**, Jianfeng Gao, Lawrence Carin. “Towards Generating Long and Coherent Text with Multi-Level Latent Variable Models”. *57th Annual Meeting of the Association for Computational Linguistics (ACL)*, 2019.
- [9] Jiawei Wu, **Xin Wang**, William Yang Wang. “Extract and Edit: An Alternative to Back-Translation for Unsupervised Neural Machine Translation”. *17th Annual Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT)*, 2019. **Oral Presentation**
- [8] **Xin Wang**, Jiawei Wu, Da Zhang, Yu Su, William Yang Wang. “Learning to Compose Topic-Aware Mixture of Experts for Zero-Shot Video Captioning”. *Thirty-Third AAAI Conference on Artificial Intelligence (AAAI)*, 2019. **Oral Presentation**
- [7] **Xin Wang***, Wenhan Xiong*, Hongmin Wang, William Yang Wang. “Look Before You Leap: Bridging Model-Free and Model-Based Reinforcement Learning for Planned-Ahead Vision-and-Language Navigation”. *European Conference on Computer Vision (ECCV)*, 2018.
- [6] Wenhui Chen, Jianshu Chen, Yu Su, **Xin Wang**, Dong Yu, Xifeng Yan, William Yang Wang. “XL-NBT: A Cross-lingual Neural Belief Tracking Framework”. *Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2018.
- [5] **Xin Wang***, Wenhui Chen*, Yuan-Fang Wang, William Yang Wang. “No Metrics Are Perfect: Adversarial Reward Learning for Visual Storytelling”. *56th Annual Meeting of the Association for Computational Linguistics (ACL)*, 2018. **Oral Presentation**
- [4] **Xin Wang**, Wenhui Chen, Jiawei Wu, Yuan-Fang Wang, William Yang Wang. “Video Captioning via Hierarchical Reinforcement Learning”. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2018.

- [3] **Xin Wang**, Yuan-Fang Wang, William Yang Wang. “Watch, Listen, and Describe: Globally and Locally Aligned Cross-Modal Attentions for Video Captioning”. *16th Annual Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT)*, 2018.
- [2] Da Zhang, Xiyang Dai, **Xin Wang**, Yuan-Fang Wang. “S3D: Single Shot multi-Span Detector via Fully 3D Convolutional Network”. *29th British Machine Vision Conference (BMVC)*, 2018. **Oral Presentation**
- [1] **Xin Wang**, Geoffrey Oxholm, Da Zhang, Yuan-Fang Wang. “Multimodal Transfer: A Hierarchical Deep Convolutional Neural Network for Fast Artistic Style Transfer”. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2017.

Workshop Papers

- [3] Jiannan Xiang, **Xin Wang**, William Yang Wang. “Not All Actions Are Equal: Learning to Stop in Language-Grounded Urban Navigation”. *Visually Grounded Interaction and Language Workshop, Neural Information Processing Systems (NeurIPS)*, 2019.
- [2] **Xin Wang***, Vihan Jain*, Eugene Ie, William Yang Wang, Zornitsa Kozareva, Sujith Ravi. “Natural Language Grounded Multitask Navigation”. *Visually Grounded Interaction and Language Workshop, Neural Information Processing Systems (NeurIPS)*, 2019.
- [1] **Xin Wang**, William Yang Wang. “Zero-Shot Video Captioning with Topic-Aware Mixture of Experts”. *Continual Learning Workshop, Neural Information Processing Systems (NeurIPS)*, 2018.

Technical Reports

- [3] Wanrong Zhu, **Xin Wang**, Tsu-Jui Fu, An Yan, Pradyumna Narayana, Kazoo Sone, Sugato Basu, William Yang Wang. “Multimodal Text Style Transfer for Outdoor Vision-and-Language Navigation”. *arXiv*, 2020.
- [2] An Yan*, **Xin Wang***, Jiangtao Feng, Lei Li, William Yang Wang. “Cross-Lingual Vision-Language Navigation”. *arXiv*, 2019.
- [1] Da Zhang, Hamid Maei, **Xin Wang**, Yuan-Fang Wang. “Deep Reinforcement Learning for Visual Object Tracking in Videos”. *arXiv*, 2017.

Patents

- [1] Geoffrey Oxholm, Xin Wang. “Multimodal style-transfer network for applying style features from multi-resolution style exemplars to input images”. *US Patent 10,565,757*, 2020.

SERVICE

Area Chair

- The 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP), 2020

Session Chair

- AAAI Conference on Artificial Intelligence (AAAI), 2019 (Natural Language Processing)

Organizer

- Workshop on Advances in Language and Vision Research (ALVR), ACL 2020

- Workshop on Language & Vision with applications to Video Understanding (LVVU), CVPR 2020
- Tutorial on Self-Supervised Deep Learning for NLP, ACL-IJCNLP 2020
- Workshop on Closing the Loop Between Vision and Language (CLVL), ICCV 2019

Program Committee or Reviewer

- Annual Meeting of the Association for Computational Linguistics (ACL)
- Conference on Empirical Methods in Natural Language Processing (EMNLP)
- Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL)
- IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
- International Conference on Computer Vision (ICCV)
- European Conference on Computer Vision (ECCV)
- International Journal of Computer Vision (IJCV)
- Conference on Neural Information Processing Systems (NeurIPS)
- AAAI Conference on Artificial Intelligence (AAAI)
- Conference on Robot Learning (CoRL)
- International Joint Conference on Natural Language Processing (IJCNLP)
- The SIGNLL Conference on Computational Natural Language Learning (CoNLL)
- Workshop on Scene Graph Representation and Learning (SGRL), ICCV 2019
- Combined Workshop on Spatial Language Understanding & Grounded Communication for Robotics (SpLU-RobonLP), NAACL 2019
- Workshop on e-Commerce and NLP (ECNLP), The Web Conference (WWW) 2019
- Southern California Natural Language Processing Symposium, 2018

SPEECHES

Towards Generalizable Navigation Learning

- Jiangmen, virtual Sep 2020
- AI Technology Review, virtual Aug 2020

Close The Loop Between Language and Vision for Embodied Agents

- Simon Fraser University, virtual Apr 2020
- Rensselaer Polytechnic Institute, virtual Apr 2020
- Peking University, virtual Mar 2020
- Tsinghua University, virtual Mar 2020
- University of California, Santa Cruz, CA Mar 2020
- University of Rochester, Rochester, NY Feb 2020
- Toyota Technological Institute at Chicago, Chicago, IL Jan 2020

Reinforced Cross-Modal Matching and Self-Supervised Imitation Learning for Vision-Language Navigation

- GPU Technology Conference (GTC), virtual Mar 2020

Go Beyond English: Multilingual Language Grounding in Vision

- ICCV 2019 Workshop on Person In Context, Seoul, South Korea Oct 2019

VATEX: A Large-Scale, High-Quality Multilingual Dataset for Video-and-Language Research

- ACL 2020 Workshop on Advances in Language and Vision Research (ALVR), virtual Jul 2020
- CVPR 2020 Workshop on Language & Vision with applications to Video Understanding (LVVU), virtual Jun 2020
- ICCV 2019 Workshop on Closing the Loop Between Vision and Language (CLVL), Seoul, South Korea Oct 2019

Language and Vision: Learning to Describe and Interact in the Multimodal World

- Robin.ly, Long Beach, CA Jul 2019
- Facebook AI, Menlo Park, CA Jun 2019
- Jiangmen, virtual May 2019

HONORS & AWARDS

Outstanding Publication Award, UCSB CS Department	2020
CVPR Best Student Paper Award (1/5160 \approx 0.02%)	2019
Adobe Research Fellowship Finalist	2019
Outstanding Graduates, Zhejiang University	2015
CCF Excellent Student Award (only 100 in China), China Computer Federation	2014
National Endeavor Scholarship, Ministry of Education, China	2012 - 2014
First Prize Outstanding Student Scholarship, Zhejiang University	2013 - 2014
Merit Student Award, Zhejiang University	2013 - 2014
Student Leadership Award, Zhejiang University	2013

TEACHING

<i>Instructor</i> , UC Santa Cruz CSE 280V: Seminar on Computer Vision	Fall 2020
<i>Guest Lecturer</i> , UC Santa Barbara CS 281B: Computer Vision and Image Analysis	Winter 2018
<i>Teaching Assistant</i> , UC Santa Barbara CS 190I: Introduction to Natural Language Processing	Winter 2017
<i>Teaching Assistant</i> , UC Santa Barbara CS 180: Computer Graphics	Fall 2016
<i>Teaching Assistant</i> , UC Santa Barbara CS 48: Computer Science Project	Winter 2016
<i>Teaching Assistant</i> , UC Santa Barbara CS 32: Problem Solving with C++	Fall 2015

MENTORING

- Tsu-Jui Fu (PhD student, UCSB)
- Wanrong Zhu (PhD student, UCSB)
- Hong Wang (PhD student, UCSB)
- An Yan (MS student, UCSD. Next position: UCSD PhD student)
- Jiannan Xiang (Undergraduate, USTC. Next position: CMU MS student)