

Jiashu Xu

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EDUCATION

Harvard University

Master's in Computational Science and Engineering; GPA: 4.0/4.0

Cambridge, USA

Sep 2022 – Jun 2024

University of Southern California

B.S. in Applied Math & Computer Science; GPA: 3.97/4.0

Los Angeles, USA

Aug 2020 – Jun 2022

University of California, Irvine

B.S. in Applied Math & Computer Science; GPA: 3.98/4.0

Irvine, USA

Aug 2018 – Jun 2020

Hong Kong University of Science and Technology

UCEAP summer study abroad, study robotics; GPA: 4.0/4.0

Hong Kong, China

Jun – Aug 2019

Awards: Center for Undergraduate Research in Viterbi Engineering Fellowship, Jennifer Battat Scholarship, USC Transfer Merit Scholarship, USC Academic Achievement Award, USC & UCI Dean's List (all semesters)

RESEARCH INTEREST

My current research interest is in **reliable AI**. Particularly,

1. AI Security ([1] to [4])
2. Training AI that excels in low-resource regimes, through indirect supervision ([7], [12]) or synthetic data ([5], [6], [8], [9], [11])
3. Explanation and how can we learn from explanation ([13] to [15])

PUBLICATION

[1] Training Large Language Models as Reward Models

Jiashu Xu, Daniel Pressel, Praseem Goyal, Luke Dai, Michael Johnston
COLM, 2024 (Under Amazon Internal Review)

[2] Fingerprinting Large Language Models

Jiashu Xu, Fei Wang, Mingyu Derek Ma, Pang Wei Koh, Chaowei Xiao, Muchao Chen
NAACL, 2024 (Under Review)

[3] Test-time Backdoor Mitigation for Black-Box Large Language Models with Defensive Demonstrations

Wenjie Mo, Jiashu Xu, Qin Liu, Jiong Xiao Wang, Jun Yan, Chaowei Xiao, Muhao Chen
NAACL, 2024 (Under Review)

[4] Instructions as Backdoors: Backdoor Vulnerabilities of Instruction Tuning for Large Language Models

Jiashu Xu, Mingyu Derek Ma, Fei Wang, Chaowei Xiao, Muhao Chen
NAACL, 2024 (Under Review)

[paper](#)

[5] Prompt Distribution Learning for Text-to-Image Generation

Brian Nlong Zhao, Jiashu Xu*, Yuhang Xiao*, Xinyang Jiang, Yifan Yang, Dongsheng Li, Laurent Itti, Yunhao Ge, Vibhav Vineet
CVPR, 2024 (Under Review)

[6] BEHAVIOR Vision Suite: Customized Dataset Generation with Realistic Simulation

Yunhao Ge*, Yihe Tang, Jiashu Xu*, Cem Gokmen*, Chengshu Li, Wensi Ai, Benjamin Jose Martinez, Arman Aydin, Mona Anvari, Ayush K Chakravarthy, Hong-Xing Yu, Josiah Wong, Sanjana Srivastava, Sharon Lee, Shengxin Zha, Laurent Itti, Yunzhu Li, Roberto Martín-Martín, Miao Liu, Pengchuan Zhang, Ruohan Zhang, Li Fei-Fei, Jiajun Wu
CVPR, 2024 (Under Review)

- [7] **Can NLI Provide Proper Indirect Supervision for Low-resource Biomedical Relation Extraction?**
Jiashu Xu, Mingyu Derek Ma, Muhao Chen
ACL, 2023 ([Oral](#)) [code](#) [paper](#)
- [8] **Dall-e for detection: Language-driven context image synthesis for object detection**
 Yunhao Ge*, **Jiashu Xu***, Brian Nlong Zhao, Neel Joshi, Laurent Itti, Vibhav Vineet
Arxiv, 2022 [code](#) [paper](#)
- [9] **EXACT: Compositional Augmentation for Image-level Weakly-Supervised Instance Segmentation**
Jiashu Xu*, Yunhao Ge*, Brian Nlong Zhao, Laurent Itti, Vibhav Vineet
TMLR, 2023 (Under Review)
- [10] **X-Norm: Exchanging Normalization Parameters for Bimodal Fusion**
 Yufeng Yin*, **Jiashu Xu***, Tianxin Zu, Mohammad Soleymani
ICMI, 2022 [paper](#)
- [11] **Neural-Sim: Learning to Generate Training Data with NeRF**
 Yunhao Ge, Harkirat Behl*, **Jiashu Xu***, Suriya Gunasekar, Neel Joshi, Yale Song, Xin Wang, Laurent Itti, Vibhav Vineet
ECCV, 2022 [code](#) [paper](#)
- [12] **Unified Semantic Typing with Meaningful Label Inference**
 James Y. Huang, Bangzheng Li*, **Jiashu Xu***, Muhao Chen
NAACL, 2022 [code](#) [paper](#)
- [13] **Dissection Gesture Sequence during Nerve Sparing Predicts Erectile Function Recovery after Robot-Assisted Radical Prostatectomy**
 Runzhuo Ma, **Jiashu Xu**, Ivan Rodriguez, Gina DeMeo, Aditya Desai, Loc Trinh, Jessica H. Nguyen, Anima Anandkumar, Jim C. Hu, Andrew J. Hung
NPJ Digit Medicine, 2022 [paper](#)
- [14] **Dissection Assessment for Robotic Technique (DART) to Evaluate Nerve-Spare of Robot-Assisted Radical Prostatectomy**
 Runzhuo Ma, Alvin Hui, **Jiashu Xu**, Aditya Desai, Michael Tzeng, Emily Cheng, Loc Trinh, Jessica H. Nguyen, Anima Anandkumar, Jim C. Hu, Andrew J. Hung
American Urological Association Annual Conference (AUA), 2022 [paper](#)
- [15] **SalKG: Learning From Knowledge Graph Explanations for Commonsense Reasoning**
 Aaron Chan, **Jiashu Xu**, Boyuan Long, Soumya Sanyal, Tanishq Gupta, Xiang Ren
NeurIPS, 2021 [code](#) [paper](#)

WORK & TEACHING EXPERIENCE

Amazon Alexa Science <i>Applied Scientist</i>	New York, USA <i>Summer 2023</i>
<ul style="list-style-type: none"> LLM research for science team. 	
Teaching Assistant <i>CSCI 567: Machine Learning with Prof. Haipeng Luo</i>	Los Angeles, USA <i>Fall 2021</i>
<ul style="list-style-type: none"> Held Office Hours, monitored piazza to answer students' questions regarding math and code implementation and graded homework and projects. 	
Teach for Los Angeles <i>Mentor</i>	Los Angeles, USA <i>Spring 2021</i>
<ul style="list-style-type: none"> Tutored middle school students from LA K-12 community 1-on-1 on mathematics two hours every week. Inspired students to reach full math potential in preparation for college and STEM careers. 	
Math CEO <i>Mentor</i>	Irvine, USA <i>Fall 2018 – Spring 2020</i>
<ul style="list-style-type: none"> Coordinated meetings with Santa Ana middle school students and taught mathematical thinking. 	
Johnson & Johnson <i>Digital & Analytics Data Assistant</i>	Shanghai, China <i>Summer 2019</i>

- Tracked counterfeit products or parallel products from various sales channels using NLP techniques including semantic role labeling and named entity recognition.
- Devised context extractor based on Jieba tokenizer and Chinese word vectors.
- Presented in PCS 2019 medicine CIO summit about NLP approach for tracking counterfeit products.

Wind Information

Shanghai, China

Quantitative Index Research Analyst

Spring – Summer 2018

- Collaborated with product managers to launch Wind's new product: Wind Equity Backtester and implemented multiple prototype algorithms with test codes using python-wind and Pytest.
- Code-reviewed index-related codes, queried Wind index database to resolve clients' complaints.

SKILLS

Languages: Python, C/C++, Java, Scala, MATLAB, R, {Java, Type}Script, SQL, \LaTeX

Frameworks: PyTorch, TensorFlow, scikit-learn, Pandas, Spark, React.js, Spring, AWS, gradio, MariaDB, MongoDB