Jiashu Xu

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Education

Harvard University — Cambridge, USA
Master's in Computational Science and Engineering; GPA: 4.0/4.0 — *Sep 2022 – Jun 2024*

University of Southern California — Los Angeles, USA
B.S. in Applied Math & Computer Science; GPA: 3.97/4.0 — *Aug 2020 – Jun 2022*

University of California, Irvine — Irvine, USA
B.S. in Applied Math & Computer Science; GPA: 3.98/4.0 — *Aug 2018 – Jun 2020*

Hong Kong University of Science and Technology — Hong Kong, China
UCEAP summer study abroad, study robotics; GPA: 4.0/4.0 — *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]
2. Training AI that excels in low-resource regimes, through indirect supervision [7, 9] or synthetic data [3, 4, 6]
3. Explanation and how can we learn from explanation [8, 9, 10]

Publication

[1] **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

[2] **Can NLI Provide Proper Indirect Supervision for Low-resource Biomedical Relation Extraction?**
Jiashu Xu, Mingyu Derek Ma, Muhao Chen
ACL, 2023 (**Oral**) code paper

[3] **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

[4] **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)

[5] **X-Norm: Exchanging Normalization Parameters for Bimodal Fusion**
Yufeng Yin*, **Jiashu Xu***, Tianxin Zu, Mohammad Soleymani
ICMI, 2022 paper

[6] **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

[7] **Unified Semantic Typing with Meaningful Label Inference**
James Y. Huang, Bangzheng Li*, **Jiashu Xu***, Muhao Chen
NAACL, 2022 code paper

[8] **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

[9] **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

[10] **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 New York, USA
Applied Scientist *Summer 2023*
- LLM research for science team.

Teaching Assistant Los Angeles, USA
CSCI 567: Machine Learning with Prof. Haipeng Luo *Fall 2021*
- Held Office Hours, monitored piazza to answer students' questions regarding math and code implementation and graded homework and projects.

Teach for Los Angeles Los Angeles, USA
Mentor *Spring 2021*
- 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 Irvine, USA
Mentor *Fall 2018 – Spring 2020*
- Coordinated meetings with Santa Ana middle school students and taught mathematical thinking.

Johnson & Johnson Shanghai, China
Digital & Analytics Data Assistant *Summer 2019*
- 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