

Jiashu Xu

📍 Los Angeles, CA | 📞 949-522-2936 | ✉️ jiashuxu@usc.edu | 🌐 cnut1648 | 🌐 jiashu-xu | 🌐 website

EDUCATION

University of Southern California

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

Los Angeles, USA

August 2020 - June 2022

University of California, Irvine

B.S. in Applied Math & Computer Science, GPA: 3.984/4.0

Irvine, USA

September 2018 - August 2020

Hong Kong University of Science and Technology

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

Hong Kong, China

June - August 2019

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

RESEARCH INTEREST

▶ Transparent and robust AI system in NLP domain; high-level supervisions for model regularization

PUBLICATION

[1] SalKG: Learning From Knowledge Graph Explanations for Commonsense Reasoning

Aaron Chan, **Jiashu Xu**, Boyuan Long, Soumya Sanyal, Tanishq Gupta, Xiang Ren

Conference on Neural Information Processing Systems (NeurIPS), 2021.

[code](#) [paper](#)

[2] 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

American Urological Association Annual Conference (AUA), 2022. Under review.

[abstract](#)

[3] 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. Under review.

[abstract](#)

[4] Unified Semantic Typing with Meaningful Label Inference

James Y. Huang, Bangzheng Li*, **Jiashu Xu***, Muhao Chen

North American Chapter of the Association for Computational Linguistics (NAACL), 2022.

[4] Neural-Sim: Learning to Generate Training Data with NeRF

Yunhao Ge, **Jiashu Xu**, Harkirat Behl, Suriya Gunasekar, Neel Joshi, Yale Song, Xin Wang, Laurent Itti, Vibhav Vineet

European Conference on Computer Vision (ECCV), 2022. Under review.

[5] Language-Driven Compositional Context Image Synthesis for Object Detection

Yunhao Ge, **Jiashu Xu**, Laurent Itti, Vibhav Vineet

European Conference on Computer Vision (ECCV), 2022. Under review.

RESEARCH EXPERIENCE

LUKA Lab @ USC Information Sciences Institute, CURVE research fellow

Los Angeles, USA

Advisor: Professor Muhao Chen

August 2021 - Present

○ Zero-shot Inference in Event Detection with Contextual Gloss

- Generated contextual gloss for each event type by word sense disambiguation neural model Extractive Sense Comprehension (ESC)

- Enhanced pretrained language models' zero-shot inference capacity by providing contextual gloss as intermediate semantic-rich knowledge for labels
- Achieved comparable performance in MAVEN dataset with no training samples

IHP Lab @ USC Institute for Creative Technologies, Research Assistant

Los Angeles, USA

Advisor: Professor Mohammad Soleymani

August 2021 - Present

○ **Synthetic-to-real Transfer Learning for Action Recognition**

- Experimented recently published action recognition baselines on three widely used datasets
- Explored various directions for knowledge transfer including domain adaptation and style transfer

INK Lab @ USC Information Sciences Institute, Research Assistant

Los Angeles, USA

Advisor: Professor Xiang Ren

January 2021 - Present

○ **Enhance KG-augmented Model Using Saliency Explanation**

- Implemented variants of SalKG training framework including end-to-end training using KL divergence to regularize model and introducing BCE loss for SalKG-Fine model
- Integrated CODAH and QASC datasets into codebase and conducted extensive experiments on four commonly used QA benchmarks
- Led SalKG ablations study and built low-resource (10%, 30% and 50% of training data) pipeline

Melady Lab @ USC, Research Assistant

Los Angeles, USA

Advisor: Professor Yan Liu

July 2021 - Present

○ **Dissection of Gesture Sequence to Predict Erectile Function Recovery**

- Developed classification system based on long-term dependencies among robot gesture sequences of nerve-sparing, using IMV-LSTM and an attention transformer model adopted from Informer
- Conducted extensive experiments, used TPE sampler to search for best optimal hyperparameters and achieved 80.76 AUC on holdout dataset
- Introduced explanation which integrated attention mechanism and occlusion-based explanation and utilized such directionality to identify “bad smell” of subsequences of gestures that could potentially help surgeons refine skills
- Incorporating patient’s clinical data into neural tabular model including AutoInt, TabTransformer and FT-Transformer and achieved 64 AUC on holdout dataset with solely clinical features

WORK & TEACHING EXPERIENCE

Learning Assistant

Los Angeles, USA

CSCI 567: Machine Learning with Professor Haipeng Luo

August – December 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

January - June 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

Johnson & Johnson

Shanghai, China

Digital & Analytics Data Assistant

August - September 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

Math CEO

Irvine, USA

Mentor

September 2018 - August 2020

- Coordinated meetings with Santa Ana middle school students and taught mathematical thinking
- Devised intriguing math problems and puzzles for students