

## EDUCATION

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| ◆ <b>University of Illinois at Urbana-Champaign (UIUC)   ECE</b>   | <b>Urbana, USA</b>         |
| Ph.D. candidate, Computer Vision and Robotics Laboratory, GPA 3.95/4                                     | <i>Sep. 2019-May 2024</i>  |
| <b>Courses:</b> Deep Learning, Pattern Recog., Computer Vision, Adv. Topics in NLP, Adv. Info. Retrieval |                            |
| ◆ <b>University of Waterloo (UW)   System Design Engineering</b>   | <b>Waterloo, Canada</b>    |
| MAS.c., Vision and Image Processing Lab, GPA 90/100 (A+)   | <i>May 2017-Apr. 2019</i>  |
| ◆ <b>New York University (NYU)   Tandon School of Engineering</b>  | <b>New York, USA</b>       |
| MS, Computer Engineering, GPA 3.53/4   | <i>Sep. 2015-Jan. 2017</i> |
| ◆ <b>Beijing University of Posts and Telecommunications (BUPT)</b>                                       | <b>Beijing, China</b>      |
| B.Eng., Telecommunication Eng., GPA 87/100 (A)   | <i>Sep. 2011-July 2015</i> |

## PUBLICATIONS

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- **Xiaodan Hu**, Narendra Ahuja, “Movement-and-Action Transformer Networks for Temporal Action Proposal Generation”, manuscript submitted to ECCV 2022
  - Ansel Blume, **Xiaodan Hu**, Zhenghailong Wang, Heng Ji, “Curriculum Learning with Memory Integration and Error Banks for Attribute Extraction”, manuscript submitted to ECCV 2022
  - Jiangong Lia, Angela R. Green-Miller, **Xiaodan Hu**, ... “Barriers to Computer Vision Applications in Pig Production Facilities”, manuscript submitted to Journal of Computer and Electronics in Agriculture
  - **Xiaodan Hu**, Narendra Ahuja, “Unsupervised 3D Pose Estimation for Hierarchical Dance Video Recognition”, accepted by ICCV 2021.
  - Aniket Shirke, Jiangong Li, Tawni Williams, **Xiaodan Hu**, ..., Tracking Grow-Finish Pigs Across Large Pens Using Multiple Cameras”, accepted as an oral presentation at CV4Animals at CVPR 2021.
  - Zilong Zhong, Zhong Qiu Lin, Rene Bidart, **Xiaodan Hu**, Ibrahim Ben Daya, Zhifeng Li, Wei-Shi Zheng, Jonathan Li, Alexander Wong, “Squeeze-and-Attention Networks for Semantic Segmentation”, accepted by CVPR 2020.
  - **Xiaodan Hu** et al., “MUSE: Illustrating Textual Attributes by Portrait Generation”, accepted by AIART 2021.
  - **Xiaodan Hu** et al., “Non-Stationary Content-Adaptive Projector Resolution Enhancement”, accepted by Journal of Signal Processing: Image Communication, September 2021
  - Manling Li et al. (17<sup>th</sup> of 40 authors), “GAIA at SMKBP 2020-a dockerlized multi-media multi-lingual knowledge extraction, clustering, temporal tracking and hypothesis generation system”, TAC 2020
  - **Xiaodan Hu** et al., “ClearGAN: Photo-Realistic High-Resolution Text-to-Image Synthesis via Joint Inter-modal and Intra-modal Attention Modeling”, accepted at the Language and Vision Workshop at CVPR 2019.
  - **Xiaodan Hu** et al., “RUNet: A Robust UNet Architecture for Image Super-Resolution”, accepted as an oral presentation at Women in Computer Vision Workshop at CVPR 2019
  - **Xiaodan Hu** et al., “ProstateGAN: Mitigating Data Bias via Prostate Diffusion Imaging Synthesis with Generative Adversarial Networks,” accepted at the ML4H Workshop at NeurIPS 2018
  - **Xiaodan Hu** et al., “Device, System and Method for Enhancing One or More of High Contrast Regions and Text Regions in Projected Images”, US patent US-9728142-B2

- **Xiaodan Hu** et al., “Robust Visual Enhancement of Moving Contents in Projected Imagery”, accepted at 2019 SID Symposium
- **Xiaodan Hu** et al., “Text Enhancement in Projected Imagery”, accepted at the CVIS 2018
- **Xiaodan Hu** et al., “Motion Detection in High-Resolution Enhancement”, accepted at the CVIS 2017

## RESEARCH PROJECTS

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- ◆ **Multimodal Video Understanding and Synthesis** *Sep. 2019-now UIUC*
  - Dance video recognition by tracking, 2D pose estimation, and unsupervised 3D pose estimation.
  - Developed an action proposal generation network for automatic segmentation of a video into clips.
  - Multimedia Human Activity Video Generation
- ◆ **Multimedia Attribute Discovery and Language Acquisition** *Jan. 2020-now UIUC*
  - Concept acquisition and multimedia attributes extraction through curriculum learning
  - Language acquisition by textual attributes guided portrait painting generation

## EMPLOYMENT EXPERIENCE

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- ◆ **Applied Scientist Intern** - *Amazon.com Services LLC, Seattle, US* *Jan.-Aug. 2022*
  - Open-vocabulary human activity recognition generalizable to new scenes, activities or objects
  - Video scene graph construction by Commonsense Reasoning.
- ◆ **Research Associate** - *University of Waterloo, CA* *May-Aug. 2019*
  - Work with Prof. Paul Fieguth and Prof. Alex Wong on text-to-image generation.
- ◆ **Research Engineer Intern** - *Christie Digital Systems Inc., Kitchener, CA.* *Mar. 2017-April. 2019*
  - Content-adaptive high-resolution enhancement using one/multiple low-resolution projector(s)

## AWARDS AND ACTIVITIES

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- Selected as the recipient of a [Rambus Computer Engineering Fellowship](#) for 2022-2023, ECE UIUC
- Selected as a [Mavis Future Faculty Fellows](#) (MF3) and receive the fellowship, 2022-2023
- WACV 2023 Reviewer
- EMNLP 2023 Reviewer; EMNLP 2022 Demo Reviewer
- ECCV 2022 Reviewer
- NAACL 2022 Reviewer
- ACL ARR 2022 Reviewer; ACL 2022 Demo Reviewer; ACL 2021 Demo Reviewer
- New In ML Workshop at NeurIPS 2020 and ICML 2022, Reviewer
- Annual Conference on Vision and Intelligent Systems 2020, Session Chair
- Annual Conference on Vision and Intelligent Systems 2019-2021, Reviewer and Program Committee
- ISCAS 2020, Reviewer
- Received a travel award to attend and present the work at WiCV at CVPR 2019
- Received a student travel grant to attend and present the work at SID Display Week 2019
- Graduate Research Studentship (GRS), International Masters Student Award UW 2017-2019
- Faculty of Engineering Graduate Scholarship, UW 2018, 2019

## SKILLS

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- Tools and Languages: Pytorch, Python, Java, MATLAB, JavaScript
- Skills: Computer Vision, Deep Learning, Natural Language Processing & Generation, Audio Signal Processing, Multimedia Information Retrieval