

Zijia Lu

[Linkedin](#); [Github](#); [Google Scholar](#)

Email : lu.zij@northeastern.edu

Mobile : 857-654-0908

EDUCATION

- **Northeastern University** Boston, USA
Ph.D. Candidate in Computer Science; Focus: Video Understanding with Deep Learning; GPA: 3.86/4 Sep 2019 - Now
- **NYU Shanghai** Shanghai, China
B.S. in Computer Science & B.S. in Economics; Major GPA: 3.98/4; Overall GPA: 3.73/4 2014 - 2019 (Gap Year on 2018)

EXPERIENCE

- **Amazon** Seattle, USA
Applied Scientist Intern with Davide Modolo and Bing Shuai Sep 2022 - March 2023
 - **Multi-Object Tracking (Aiming for ICCV 2023):** unsupervisedly learn consistent tracking over short/long temporal distances.
- **Northeastern University** Boston, USA
Research/Teaching Assistant with Prof. Ehsan Elhamifar Sep 2019 - Now
 - **Action Segmentation and Error Detection with Wearable Device (Aiming for ICCV 2023):**
 - Developed online model for recognizing actions in egocentric videos and potential mistakes and incorrect action ordering.
 - Collected the first systemic dataset for egocentric action segmentation and error detection.
 - Developed Hololens AR assistant which in real-time recognizes user's action and corrects possible mistakes.
 - **Weakly Supervised Action Segmentation (CVPR22, ICCV21):**
 - Addressed the task of detecting actions and their locations in test videos while action locations are unknown at training.
 - Designed an attention model with new loss to unsupervisedly learn consistent action ordering. Doubled the IOU of SOTA.
 - Designed a subspace model to capture the diverse action appearance/motion variance. Improved in accuracy and speed.
 - **Teaching:** DS 4400 - Machine Learning and Data Mining 1 (Fall 2021).
- **Chinese Academic of Sciences** Beijing, China
Student Researcher with Prof. Jiabei Zeng and Shiguang Shan Jan 2018 - Dec 2018
 - **Zero-Shot Facial Expression Recognition (ACCV18, Oral):**
 - Released a dataset that firstly extends facial expression recognition from 8 limiting basic emtions to open-set recognition.
 - Developed a Zero-Shot Learning model with an efficient Label Propagation method that improves F1 by 40%.
- **NVIDIA** Shanghai, China
Architecture Team Summer Intern Jun 2017 - Sep 2017
 - Developed optimized CUDNN Convolution function for Volta GPU.
 - Improved GPU performance simulator for estimating the performance of new architecture design.
 - The only undergraduate intern and Received return offer.
- **New York University** New York, USA
Student Researcher with Prof. Kyunghyun Cho Sep 2016 - Dec 2017
 - **Model Confidence Estimation:** Developed a meta-learning method to estimate the reliability of a model's prediction for given input. Applied to combine results from ensemble of models and greatly surpassed the standard ensemble method.

SELECTED PUBLICATIONS

- **Set-Supervised Action Learning in Procedural Task Videos via Pairwise Order Consistency** CVPR22
Zijia Lu, Ehsan Elhamifar
- **Weakly-supervised Action Segmentation and Alignment via Transcript-Aware Union-of-subspaces Learning** ICCV21
Zijia Lu, Ehsan Elhamifar
- **Zero-Shot Facial Expression Recognition with Multi-Label Label Propagation** ACCV18, Oral
Zijia Lu, Jiabei Zeng, Shiguang Shan, Xilin Chen

HONORS AND AWARDS

- NYU University Honors Scholar (for top-ranking graduates) 2019
- Undergraduate Scholarship of University of Chinese Academy of Sciences 2019
- Meritorious Winner of 2017 Interdisciplinary Contest in Modeling 2017
- NYU Shanghai Deans' Undergrad Research Fund 2016

SKILLS SUMMARY

- **Programming:** Python, C++, Java, C, JavaScript, Lua, Bash; Pytorch, LibTorch, Tensorflow, Numpy, OpenCV, Sklearn.
- **Tools:** Docker, Latex, GIT, Matlab, Photoshop, Premiere.