

# Songyang Zhang

3209 Wegmans Hall, 250 Hutchison Rd, Rochester, NY, 14627, USA

Email: szhang83@ur.rochester.edu

Mobile: 1-5852982067

## Education

**University of Rochester, United States**

**Aug.2018 - Present**

- ❖ PhD Student in Computer Science, Advisor: Jiebo Luo

**Zhejiang University, China**

**Sep.2015 - Mar.2018**

- ❖ Master of Science in Computer Science and Technology
- ❖ Overall GPA: 3.56/4.00 (86.84/100)

**Southeast University, China**

**Aug.2011 - Jun.2015**

- ❖ Bachelor of Engineering in Computer Science and Technology
- ❖ Rank: 15<sup>th</sup> of the cohort (among 132 students)

## Publications & Research Papers

- ❖ **Songyang Zhang**, Jinsong Su, Jiebo Luo, "Exploiting Temporal Relationships in Video Moment Localization with Natural Language", ACM Multimedia Conference, October 2019
- ❖ **Songyang Zhang**, Xiaoming Liu, Jun Xiao, "On Geometric Features for Skeleton-Based Action Recognition Using Multilayer LSTM Networks", Proc IEEE Winter Conference on Application of Computer Vision (WACV), March 2017
- ❖ **Songyang Zhang**, Jun Xiao, Xiaoming Liu, Yang Yi, Yueting Zhuang, "Fusing Geometric Features for Skeleton-Based Action Recognition using Multilayer LSTM Networks", IEEE Transactions on Multimedia (TMM), Accepted
- ❖ Jiageng Feng, **Songyang Zhang**, Jun Xiao, "Explorations of skeleton features for LSTM-based action recognition", Multimedia Tools and Applications (MTAP), 2017
- ❖ **Songyang Zhang**, "Surveillance Video Synopsis Based on Object Trajectory Analysis", Undergraduate Thesis, May 2015

## Research Experience

**PhD Researcher, University of Rochester**

**Aug.2018 - Present**

Project: **Moment Localization via Natural Language**

- ❖ This task aims to temporally find related videos clips by a given sentence.
- ❖ The goal of this project focuses on searching segments by considering video as general sequence data.

Project: **Temporal Action Localization**

- ❖ This task aims to classify and localize the action segments from long, untrimmed videos.
- ❖ The goal of this project focuses on finding action segments without generating proposals.

**Master Researcher, Zhejiang University**

**Mar.2016 - Present**

Project: **Skeleton-Based Action Recognition**

- ❖ Used a simple universal spatial modeling method perpendicular to the RNN model enhancement
- ❖ Proposed a multi-stream LSTM architecture with a new smoothed score fusion technique to learn classification from different geometric feature streams

- ❖ Identified the geometric relational features that outperform the other features, achieved good performance on four datasets

Project: **Skeleton-Based Action Detection**

**Feb.2017 - May.2017**

- ❖ Applied Temporal Segment Network by Xiong et.al combined with the framework in the recognition project
- ❖ Generated temporal region proposals with motions using the snippet network, classified the proposals into different categories with activity network
- ❖ Achieved state-of-the-art result for OAD dataset

Project: **Grounding Scene Graphs for Natural Language Image Retrieval**

**Dec.2016 - Mar.2017**

- ❖ Focused on natural language image retrieval via unsupervised grounding textual phrases in visual content
- ❖ Parsed the referential expression into the triple format, generated the vector representation, technically reconstructed the subject, object and relational phrases
- ❖ Adapted scene graphs to retrieve images by natural language

**Undergraduate Researcher, Robocup Lab, Southeast University**

**Jan.2013 - Oct.2014**

Project: **RoboCup 3D Simulation**

- ❖ Aimed to improve the robot's long distance kicking skill
- ❖ Optimized the joint positions and the time lag via hill-climbing algorithm based on the initial model frame
- ❖ Achieved an average kicking distance of 13 meters, exceeding the original average performance by 5 meters

## Professional Experience

**Intern, Microsoft Research Asia**

**May.2019 - Aug.2019**

- ❖ Mentors: Jianlong Fu, Houwen Peng
- ❖ Topic: Moment Localization via Natural Language

**Intern, Tencent AI Lab**

**Mar.2017 - Aug.2017**

- ❖ Mentors: Lin Ma, Linchao Bao
- ❖ Topic: Temporal Action Localization

**Teaching Assistant, Fundamentals of Multimedia Class, Zhejiang University**

**Mar.2017 - Aug.2017**

- ❖ Coordinated and organized various discussion and laboratory sessions for the class
- ❖ Reviewed students' assignments and resolved their questions

## Honors & Awards

**Project Prizes - Large Scale 3D Human Activity Analysis Challenge in Depth Videos**

- ❖ Rank 4 in Recognition Track, 6 in Detection Track, granted by ICME 2017 Workshop **Apr.2017**
- ❖ Rank 6, granted by ACCV 2016 Workshop **Oct.2016**

**Project Prizes - Robocup 3D Simulation**

- ❖ Champion, RoboCup China Open 2014 Competition **Oct.2014**
- ❖ Rank 5~8, Robocup 3D Simulation, Robocup 2014 Competition, Brazil **Jul.2014**

**3<sup>rd</sup> Prize, twice for Southeast University Programming Contest**

**Jul.2013, May.2014**

**Award of Excellence, Southeast University Mathematical Modelling Contest**

**Jul.2013**

**Twice for Award of Honor for Graduate (top 35%), Zhejiang University**

**May.2016, Oct.2017**

**Jiangsu Yikai Scholarship, Southeast University**

**May.2014**