

Xieyang Liu

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Education

08/2017 – *Now* **Carnegie Mellon University**
Pittsburgh, PA Ph.D. in Human-Computer Interaction
Advisor: Dr. Brad A. Myers & Dr. Niki Kittur

09/2015 – 04/2017 **University of Michigan**
Ann Arbor, MI B.S. in Computer Science Engineering
Advisor: Dr. Walter Lasecki

09/2013 – 08/2017 **University of Michigan – Shanghai Jiao Tong University Joint Institute**
Shanghai, China B.S.E. in Electrical and Computer Engineering
Advisor: Dr. Jing Liu

Projects

07/2016 – *present* **Learning to Boost Machine Learning Classifier Performances Using Subclass
Undergraduate information**
Researcher *Advised by Dr. Walter Lasecki*

- Investigate the impact of added subclass information on the performances of machine learning classifiers.
- Iteratively build an efficient web-based image labeling tool to gather patterns in misclassified images from the crowd.
- Develop an automated system for labeling result visualization and analysis.

05/2016 – *present* **Computer Vision and Crowdsourcing for Vehicle Crash Analysis**
Undergraduate *Advised by Dr. Walter Lasecki & Dr. Jason Corso*
Researcher

- Created a reconfigurable, web-based vehicle crash scene annotation UI that enables crowd workers to efficiently and effectively provide information about a visual scene, such as object labels and measurements.
- Constructed a reusable annotation server backend that recruits crowd workers for real-time tasks, collects responses, and visualizes the collected data.
- Conducted user studies for designing ways to optimize worker performance and improve system reliability on Amazon MTurk.

10/2015 – 11/2016 **Learning to Detect Human-Object Interactions (HOI)**

Research Assistant *Advised by Dr. Jia Deng*

- Developed an Amazon MTurk-based image annotation tool as well as its corresponding automated evaluation system that boost worker-end annotating efficiency and facilitate large-scale image data extractions.
- Implemented and revised a Python-based back-end interface using Amazon provided APIs that supports instant data collection and progress check.
- Contributed to the development of a novel deep learning framework that significantly improves the performance of HOI detection by exploiting human-object spatial relations, and achieves state-of-the-art performance.
- Submitted work to CVPR 2017

08/2016 – present **Project EasyDraw: An Addition to Assistive Technology**

Software Engineer *Advised by Dr. David Chesney*

- Lead the development of a specialized figure and diagram editing application on iPad that enables people with physical disabilities to draw professional free-body diagrams as well as their able-bodied peers.

Research Interests

human-computer interaction, intelligent and interactive systems, user interface software & technology, interactive machine learning

Publications

Yu-Wei Chao, Yunfan Liu, **Xieyang Liu**, Jia Deng. Learning to Detect Human-Object Interactions. arXiv.org

Professional Experience

04/2016 – present **Crowds and Machines Lab, University of Michigan**

Ann Arbor, MI Undergraduate Researcher (*Advisor: Dr. Walter Lasecki*)

Worked on crowd-powered interdisciplinary projects that address novel and promising research questions.

Apr/2016 – present **Center for Ergonomics, University of Michigan**

Ann Arbor, MI Research Assistant (*Advisor: Prof. Charles Woolley*)

Develop and maintain the commercially available 3D Static Strength Prediction Program (3D SSPP).

10/2015 – 04/2016 **Vision and Learning Lab, University of Michigan**

Ann Arbor, MI Research Assistant (*Advisor: Dr. Jia Deng*)

Worked on a CV-based toolkit that boosts performance on human-object interaction detection by exploiting human-object spatial relations.

Teaching

- 09/2016 – present **Instructional Aide – EECS484 Database Management Systems**
Umich Prepare and lead weekly discussion sessions and office hours that facilitate students' learning process. Prepare teaching materials and course projects. Grade assignments and exams.
- 05/2015 – 08/2015 **Teaching Assistant – Vv255 Multivariate Calculus**
SJTU Developed discussion slides and in-class exercises, led weekly discussion sessions, held office hours, graded.

Honors and Awards

- 07/2015, 07/2016 **UM-SJTU Joint Institute**
TangJunyuan Fellowship (Top 2)
- 12/2015, 04/2016 **University of Michigan**
Dean's List
- 08/2015 **Center for Learning and Teaching, UM-SJTU Joint Institute**
Basic Teaching Assistant Certificate
- 12/2013, 08/2014, 12/2014, 08/2015 **UM-SJTU Joint Institute**
Dean's List
- 06/2015 **Shanghai Jiao Tong University**
Fellowship for Outstanding Academic Performance
- 04/2015 **COMAP Mathematical Contest in Modeling**
Meritorious Winner (Acceptance: 9%)

Skills

Languages, Libraries & Frameworks

JavaScript, CSS, HTML5, C/C++, Python, Swift, Java, SQL, jQuery, Bootstrap, AngularJS, Ionic

Software & Platforms

MATLAB, Git, Visual Studio, Amazon Mechanical Turk, L^AT_EX, Photoshop