

Xieyang Liu

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Education

08/2017 – Carnegie Mellon University
Pittsburgh, PA Ph.D. in Human Computer Interaction

09/2015 – 04/2017 University of Michigan
Ann Arbor, MI B.S. in Computer Science Engineering
Advisor: Dr. Walter Lasecki
GPA: 3.92 / 4.00

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
GPA: 3.79 / 4.00

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 results visualization and analysis.

- 05/2016 – present **Computer Vision and Crowdsourcing for Vehicle Crash Analysis**
Undergraduate Researcher *Advised by Dr. Walter Lasecki & Dr. Jason Corso*
- 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 boosts worker-end annotating efficiency and facilitates 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.

- 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, Huayi Zeng, Jia Deng. Learning to Detect Human-Object Interactions.

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

01/2017 – 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 homework assignments. Grade assignments and exams.

09/2016 – 12/2016 **Instructional Aide – EECS484 Database Management Systems**
Umich Prepared and led weekly discussion sessions and office hours. Prepared teaching materials and course projects. Graded 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

03/2017 **College of Engineering, University of Michigan**
2016 – 2017 EECS Scholar

07/2015, 07/2016 **UM-SJTU Joint Institute**
Tang-Junyuan 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, **UM-SJTU Joint Institute**
12/2014, 08/2015 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

C/C++, Python, JavaScript, CSS, HTML5, Swift 3.0, Java, SQL, jQuery, Bootstrap, AngularJS

Software & Platforms

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

Tests

TOEFL Total: 116 / 120
(Internet-based Test) Reading: 30 / 30, Listening: 29 / 30, Speaking: 28 / 30, Writing: 29 / 30

GRE Verbal: 157 / 170, Quantitative: 170 / 170, Analytical Writing: 4.0 / 6.0