

# Michael Xieyang Liu

PH.D STUDENT · HCI RESEARCHER

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## Research Interests

Human-Computer Interaction, Programming Support Tools, Sensemaking, End-user Programming, Intelligent User Interfaces

## Education

### Ph.D. in Human-Computer Interaction (in progress)

Aug. 2017 - Present

CARNEGIE MELLON UNIVERSITY, HUMAN-COMPUTER INTERACTION INSTITUTE (HCII),

Pittsburgh, PA, USA

SCHOOL OF COMPUTER SCIENCE (SCS)

• Advisor: Dr. Brad A. Myers & Dr. Aniket Kittur

### B.S. in Computer Science

Sept. 2015 - Apr. 2017

UNIVERSITY OF MICHIGAN, DEPARTMENT OF ELECTRICAL ENGINEERING AND COMPUTER

Ann Arbor, MI, USA

SCIENCE

• Advisor: Dr. Walter Lasecki

### B.S.E. in Electrical and Computer Engineering

Sept. 2013 - Aug. 2017

UNIVERSITY OF MICHIGAN – SHANGHAI JIAO TONG UNIVERSITY JOINT INSTITUTE

Shanghai, China

• Advisor: Dr. Jing Liu

## Publications

### PEER-REVIEWED CONFERENCE PAPERS

- [C.3]  **Michael Xieyang Liu**, Jane Hsieh, Nathan Hahn, Angelina Zhou, Emily Deng, Shaun Burley, Cynthia Taylor, Aniket Kittur, Brad A. Myers. 2019. Unakite: Scaffolding Developers' Decision-Making Using the Web. *Proceedings of the 32nd Annual ACM Symposium on User Interface Software and Technology (UIST 2019)*. **Best Paper Honorable Mention Award.**
- [C.2] Jean Y. Song, Stephan J. Lemmer, **Michael Xieyang Liu**, Shiyan Yan, Juho Kim, Jason J. Corso, Walter S. Lasecki. 2019. Popup: Reconstructing 3D Video Using Particle Filtering to Aggregate Crowd Responses. *Proceedings of the 24th Annual ACM International Conference on Intelligent User Interfaces (IUI 2019)*.
- [C.1] Yu-Wei Chao, Yunfan Liu, **Xieyang Liu**, Huayi Zeng, Jia Deng. 2018. Learning to Detect Human-Object Interactions. *2018 IEEE Winter Conference on Applications of Computer Vision (WACV 2018)*.

### POSTERS

- [P.1] Jane Hsieh, **Michael Xieyang Liu**, Brad A. Myers, Aniket Kittur. 2018. An Exploratory Study of Web Foraging to Understand and Support Programming Decisions. *IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2018)*.

## WORKSHOP PAPERS

- [W.2] **Michael Xieyang Liu**, Nathan Hahn, Angelina Zhou, Shaun Burley, Emily Deng, Aniket Kittur, Brad A. Myers. 2018. UNAKITE: Support Developers for Capturing and Persisting Design Rationales When Solving Problems Using Web Resources. *DTSHPS'18 Workshop on Designing Technologies to Support Human Problem Solving, IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2018)*.
- [W.1] **Michael Xieyang Liu**, Shaun Burley, Emily Deng, Angelina Zhou, Aniket Kittur, Brad A. Myers. 2018. Supporting Knowledge Acceleration for Programming from a Sensemaking Perspective. *Sensemaking Workshop @ CHI Conference on Human Factors in Computing Systems (CHI 2018)*

## Research Experience

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**Graduate Research Assistant** (advised by Dr. Brad A. Myers & Dr. Aniket Kittur)

*Aug. 2017 - Present*

HUMAN-COMPUTER INTERACTION INSTITUTE, CARNEGIE MELLON UNIVERSITY

*Pittsburgh, PA, USA*

- Working on UNAKITE, a system that scaffolds developers in making decisions using information from various web sources and embedding their decision-making structures into their code.

**Research Intern** (advised by Dr. Lisa Yu, Dr. Wan-Yi Lin, and Dr. Alessandro Oltramari)

*May. 2019 - Aug. 2019*

RESEARCH AND TECHNOLOGY CENTER, BOSCH RESEARCH

*Pittsburgh, PA, USA*

- Worked on crowd & AI-powered projects that aim to improve the safety and performance of autonomous vehicles.

**Undergraduate Researcher** (advised by Dr. Walter Lasecki)

*Mar. 2016 - May. 2017*

CROWDS AND MACHINES LAB, UNIVERSITY OF MICHIGAN

*Ann Arbor, MI, USA*

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

**Research Assistant** (advised by Dr. Jia Deng)

*Sept. 2015 - Apr. 2016*

VISION & LEARNING LAB, UNIVERSITY OF MICHIGAN

*Ann Arbor, MI, USA*

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

## Teaching Experience

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**Teaching Assistant – 05430/05630 Programming Usable Interfaces**

*Fall 2019*

HUMAN-COMPUTER INTERACTION INSTITUTE, CARNEGIE MELLON UNIVERSITY

*Pittsburgh, PA, USA*

**Instructional Aide – EECS484 Database Management Systems**

*Winter 2017*

UNIVERSITY OF MICHIGAN

*Ann Arbor, MI, USA*

**Instructional Aide – EECS484 Database Management Systems**

*Fall 2016*

UNIVERSITY OF MICHIGAN

*Ann Arbor, MI, USA*

**Teaching Assistant – Vv255 Multivariate Calculus**

*Summer 2015*

UNIVERSITY OF MICHIGAN – SHANGHAI JIAO TONG UNIVERSITY JOINT INSTITUTE

*Shanghai, China*

## Students Mentored

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**Jane Hsieh**

*Summer 2018 – Spring 2019*

OBERLIN COLLEGE UNDERGRADUATE STUDENT

- Worked on studying programmers' web-foraging behaviors. Contributed to the development of the UNAKITE system.

## Emily Deng

Fall 2017

CMU MASTER'S STUDENT

- Worked on designing and carrying out interview studies with programmers that probe their programming behaviors and needs.

## Shaun Burley

Fall 2017

CMU MASTER'S STUDENT

- Worked on designing and carrying out interview studies with programmers that probe their programming behaviors and needs.

# Selected Honors, Grants & Awards

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**Best Paper Honorable Mention Award**, 32nd Annual ACM Symposium on User Interface Software and Technology (UIST 2019)

Oct. 2019

**SHF: Small: Knowledge Acceleration for Programming (\$500,000 over three years)**, NSF

Jun. 2018

**James B. Angell Scholar**, 94th Annual Honors Convocation, University of Michigan

Mar. 2017

**EECS Scholar Award**, 2017 EECS Honors & Awards Reception, University of Michigan

Mar. 2017

**2016 Summer Undergraduate Research Experience (SURE) program**, University of Michigan

May. 2016

**Tang-Junyuan Fellowship (Top 2/250, \$50,000)**, UM-SJTU Joint Institute

Jul. 2015, Jul. 2016

**Dean's List**, University of Michigan

Dec. 2015, Apr. 2016

**Basic Teaching Assistant Certificate**, Center for Learning and Teaching, UM-SJTU Joint Institute

Aug. 2015

**Dean's List**, UM-SJTU Joint Institute

Dec. 2013, Aug. 2014,

Dec. 2014, Aug. 2015

**Fellowship for Outstanding Academic Performance**, Shanghai Jiao Tong University

Jun. 2015

**Meritorious Winner (Acceptance: 9%)**, COMAP Mathematical Contest in Modeling

Apr. 2015

# Academic Service

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**Paper Reviewing**      **Conferences:** CHI (2019, 2020), CSCW (2019, 2020), UIST (2019)

# Languages & Technical Skills & Courses

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|----------------------------------|---|
| <b>Languages</b>                 | <b>English</b> - Native or bilingual proficiency, <b>Chinese (Mandarin)</b> - Native or bilingual proficiency,<br><b>German</b> - Limited working proficiency |
| <b>Programming</b>               | HTML/JavaScript/CSS, Python, SQL, C/C++, Swift, Java, LaTeX, etc.   |
| <b>Web &amp; App Development</b> | React, Angular, Redux, Bootstrap, Node.JS, PHP, Ionic, etc.   |
| <b>Deep Learning &amp; AI</b>    | Pytorch, Tensorflow   |
| <b>Courses</b>                   | Machine Learning, Deep Learning, Database Management Systems, Information Security, Web Development   |