

Shiqing (Licia) He

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RESEARCH INTERESTS

My interests lie at the intersection of human-computer interaction, information retrieval, and visual storytelling. Specifically, I have active research projects in (1) developing visual storytelling framework, (2) prototyping automated video making tools using crowd-contributed resources. Received training in both computer science and studio art, I am also interested in data-driven media creation and the development of design-assistance tools.

PUBLICATIONS

- He, Shiqing, Lin, Allen Yilun, Adar, Eytan, AND Hecht, Brent. “**The_Tower_of_Babel.jpg: Diversity of Visual Encyclopedic Knowledge Across Wikipedia Language Editions**” *International AAAI Conference on Web and Social Media* (2018): n. pag. Web. 12 Jul. 2018.
 - **Best Paper Award**, 1/295 Submissions, Acceptance Rate:16%
- He, Shiqing, and Eytan Adar. “**VIZITCARDS: A Card-Based Toolkit for Infovis Design Education.**” *IEEE transactions on visualization and computer graphics* (2016).
 - Acceptance Rate:22%

CURRENT RESEARCH

- **V-Learn-Wiki: Automated Creation of Customized Narrative Videos Based on Wikipedia Articles to Support Various Learning Needs** Aug 2017 – Present
 - Researching and analyzing existing works in deep learning, natural language processing, computer vision, information retrieval, narrative storytelling and digital media creation to develop automatic video creation pipelines.
 - Developing automated narrative videos frameworks.
 - Prototyping and evaluating video generating tools.
- **Images of Wikipedia** May 2016 – Present
 - Analyzing 42 million images hosted by Wikimedia Commons regarding their usages and content.
 - Retrieving, cleaning and analyzing large-scale textual and visual data using Python.
 - Organizing and visualizing analytic results, writing publishable research reports.
- **Data Visualization As a Learning Experience** Sep 2018 – Present
 - Analyzing potential learning objectives associated with data visualization.
 - Developing toolkits to connect learning objectives and visualization designs.

EDUCATION

- **University of Michigan**, Ann Arbor, Michigan, U.S.A.
 - Ph.D. in Information Science Sep 2015 – Present
 - Research Interests: Information Visualization, Data Mining, Design, Gaming.
 - Advisor: Dr. Eytan Adar
- **Union College**, Schenectady, New York, U.S.A.
 - B.S. in Computer Science and Studio Art with Honors. Sep 2011 – Jun 2014
 - Magma Cum Laude
 - Phi Beta Kappa, Union Scholar

SKILLS

- **Technical Skills: Data Science and Programming**
 - Python, JavaScript, R, Java
 - Tableau, D3, Matplotlib, R Plotting,
 - Machine Learning, Natural Language Processing.
 - Statistic Learning, Probability, Number Theory.
 - Django, Various Web-based Graphing & Animation Libraries(Two.js, Snap.js,Three.js, etc.)
- **Artistic Skills: Creative, Design and Prototyping**
 - Adobe Creative Suite, SOLIDWORKS, Autodesk SketchBook, Corel VideoStudio
 - Laser Cutter, 3D Printer, arduino
 - Painting, Printmaking, Paper design, Fiber Art.
- **Language:** English and Chinese

**AWARDS &
FELLOWSHIP**

- Best Implementation Award In UIST'18 Student Innovation Contest** Jul 2018 – Oct 2018
- Participated in the 31st ACM User Interface Software and Technology Symposium Student Innovation Contest and received the Best Implementation Award.
 - Developed CardioDoodler, a heartbeat-driven doodling robot with Makeblock mBot Ultimate 2.0.
- Thomas J. Watson Fellowship** Jul 2014 – Jul 2015
- Conducted research on natural dye and color production around the globe as one of the 44 awardees of Thomas J. Watson 2014 fellowship.
 - Traveled independently in ten countries including Japan, South Korea, Italy, Spain, Germany, Netherlands, Australia, Nepal, Thailand, and Singapore.
 - Written quarterly reports and published a travel column at Douban Read, one of the most popular Chinese online publishing website.(<http://read.douban.com/column/1236085/>)
- Meritorious Prize and Honorable Mention in The Mathematical Contest in Modeling** 2013 – 2014
- International Mathematical Contest in Modeling (MCM), the Consortium for Mathematics and Its Applications (COMAP)
 - Representing Union College to participate in the 2013 and 2014 Mathematical Modeling Contest.
 - Developing and evaluating mathematical models to forecast water and sport related data.
 - Received Meritorious Prize in 2014 and Honorable Mention in 2013.
- Grace Hopper Celebration Scholarship** 2013
- Awarded as one of 2013 Grace Hopper Scholar to attend 2013 Grace Hopper Celebration.
- Arnold L. Bittleman Memorial Prize** 2013
- Awarded for outstanding drawing skill in the Union College Visual Arts Department by an outside juror.
- Honorable Mention in the First Intercollegiate Art Competition** 2013
- Lower Adirondack Regional Art Council, Glan Falls, NY, U.S.A.
 - Awarded honorable mention for the intaglio print titled *Stone Lion*.

**TECHNICAL
EXPERIENCE**

- Teaching Information Visualization and Tableau** Sep 2016 – Present
- University of Michigan, School of Information, Ann Arbor, MI, U.S.A.
 - Assisting the teaching of a master-level information visualization course as a graduate student instructor.
 - Developing instructional materials for JavaScript/D3 programming labs.
 - Designing and organizing collaborative visualization design workshops.
 - Taught a four-day Tableau Bootcamp for School of Information at the graduate level.
- Graduate Research Assistant** Sep 2015 – Present
- University of Michigan, School of Information, Ann Arbor, MI, U.S.A.
 - Assisting the development of various projects.
 - Leading and participating in research meetings.
 - Drafting and submitting research publications.
- Participating in Student Innovation Contest** Aug 2016 – Oct 2016
- 29th User Interface Software, and Technology, Tokyo, Japan
 - Designed a board game using Electrical Muscle Stimulator (EMS)
 - Demoed the game in UIST 16.
 - Collaborated with Shiyuan He from Keio University, Japan.
- Research Intern in IBM Research Lab** Jun 2013 – Aug 2013
- IBM Beijing Research Lab, Beijing, China
 - Analyzing and improving an IBM smart grid management tool.
 - Improving and refining mathematical models related to an IBM product.
 - Collaborated professionally with a research team in IBM Beijing Research Lab.

**ARTISTIC
EXPERIENCE**

- Commissions:**
- One Day* 2017
 - Digital Interactive Installation, 2X2 digital displays, Doiit Studio, Ann Arbor, Michigan, U.S.A.
 - the Flow of the Lotus*, 2016
 - Acrylic on Wall, 120 x 160 inches, MeiZao Villa Resort, Yunnan, China
- Individual Exhibitions:**
- Childhood Memory*, Senior Honorary Exhibition, Union College Visual Art Gallery, NY 2014
 - Human Body*, Scholar Project Exhibition, Union College Visual Art Gallery 2013
 - Bittleman Drawing Award Winner Exhibition, Union College Visual Art Gallery 2013
- Group Exhibitions:**
- All Media Exhibition, Ann Arbor Art Center, Ann Arbor, MI 2016
 - First Intercollegiate Art Competition, Lower Adirondack Regional Art Council, Glans Falls, NY 2013
 - Drawn to Print*, Paris Mini-term Exhibition, Union College Visual Art Gallery, Schenectady, NY 2013
 - Union College Visual Art Selected Work, Union College Visual Art Gallery, Schenectady, NY 2012

Art Residency:

- Empty Space, Chiang-Mai, Thailand May 2015 – Jul 2015
- Scuola Internazionale di Grafica Venezia, Venice, Italy Nov 2014

**TALKS,
POSTER &
CONFERENCES**

- Presenter (Demo), UIST 2018, Berlin, Germany 2018
- Presenter (Talk), ICWSM 2018, San Francisco, CA, U.S.A. 2018
- Presenter (Talk), INFOVIS 2016, Baltimore, MD, U.S.A. 2016
- Presenter (Demo), UIST 2016, Tokyo, Japan 2016
- Presenter (Talk), The Michigan Interactive and Social Computing (MISC), Ann Arbor, MI, U.S.A. 2016
- Attendee, Learning Analytics Summer Institute (LASI 2016), Ann Arbor, MI, U.S.A. 2016
- Presenter (Poster), CRA-W Grad Cohort Workshop, San Diego, CA, U.S.A. 2016
- Student Volunteer, SCGI Conference, Portland, OR, U.S.A. 2016
- Presenter (Poster), IBM Summer Intern Poster Section, IBM CRL, Beijing, China 2013
- Presenter (Talk), Steinmetz Symposium, Union College, Schenectady, NY, U.S.A. 2013
- Attendee, Grace Hopper Celebration for Women in Computing, Minneapolis, MN, U.S.A. 2013
- Attendee, New York Conference for Women in Computing, Albany, NY, U.S.A. 2013
- Student Volunteer, Grace Hopper Celebration for Women in Computing, Baltimore, MD, U.S.A. 2012