Xiaoying Pu

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Research Interests: uncertainty visualizations, visual analytics, open science

Experiences

2017- University of Michigan — *Ann Arbor, MI*
Ph.D. Candidate (2020-). Advisor: Matthew Kay, Ph.D.

2020 Microsoft Research — *New York City, NY*
Research Intern. Mentors: Jake Hofman, Ph.D. and Dan Goldstein, Ph.D.

2019 National Renewable Energy Lab — *Golden, CO*
Visualization Intern. Mentor: Kristi Potter, Ph.D.

2016 National Center for Atmospheric Research — *Boulder, CO*
SIParCS Intern. Advisor: Rick Brownrigg, Ph.D.

2014 - 2015 Bucknell University — *Lewisburg, PA*
Undergraduate Researcher in Computer Science. Advisor: Evan Peck, Ph.D.
Undergraduate Researcher in Geology. Advisor: Carl Kirby, Ph.D.

Education

2020 M.S. in Computer Science and Engineering
University of Michigan — *Ann Arbor, MI*

2017 B.S. in Computer Science and Engineering
Bucknell University — *Lewisburg, PA*
Summa cum laude. Minor: Mathematics

Grants, Honors & Awards

2020 Best Paper Honorable Mention, ACM CHI Conference on Human Factors in Computing Systems

2014-2017 President's Award for Distinguished Academic Achievement, Bucknell University

2016 GHC Scholar, Anita Borg Institute, $900

2015 Travel Award, Explore Graduate Studies in CSE at University of Michigan, $350

Oral Presentation Award (top 4%), Susquehanna Valley Undergraduate Research Symposium, $100

Honorable Mention, Mathematical Contest in Modeling — COMAP

Bucknell Program for Undergraduate Research, "Improving Computer-Mediated Decision-Making via Physiological Signals from Wearable Sensors", $3000.

2014 Katherine Mabis McKenna Environmental Internship Program, "Feasibility of using freshwater mussels to monitor Ba and Sr contamination due to shale gas flowback water in Pennsylvania streams", $3500 stipend + $600 material.

Publications & Presentations

Conference Proceedings

Conferences are the main publication venues for computer science research.

2021 **Pu, Xiaoying**, Sean Kross, Jake Hofman, Daniel Goldstein. 2021. Datamations: Animated Explanations of Data Analysis Pipelines. (Conditionally accepted at CHI2021)

2020 **Pu, Xiaoying**, Matthew Kay. A Probabilistic Grammar of Graphics. 2020. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems* (CHI 2020). (Best Paper Honorable Mention)

Pesé, Mert D., **Xiaoying Pu**, and Kang G. Shin. 2020. SPy: Car Steering Reveals Your Trip Route!. In *Proceedings on Privacy Enhancing Technologies* 2020.2: 155-174.

Archival Workshop Paper

2018 **Pu, Xiaoying**, and Matthew Kay. The Garden of Forking Paths in Visualization: A Design Space for Reliable Exploratory Visual Analytics: Position Paper. In *2018 IEEE Evaluation and Beyond-Methodological Approaches for Visualization (BELIV)*. IEEE, 2018.

Non-archival Workshop Papers and Posters

2019 **Pu, Xiaoying**. 2019. Visual analytics techniques for uncertainty in power systems simulation ensembles. *VIS 2019 Application Spotlight — Visualization Paradigms in the Renewable Energy Space*.

Pu, Xiaoying, Matthew Kay, Michael Correll, Eli Brown. 2019. Unbiasing Visual Data Exploration

in the Garden of Forking Paths. *CHI 2019 Workshop on Human-Centered Study of Data Science Work Practices*.

Pu, Xiaoying, Licheng Zhu, Matthew Kay, and Frederick Conrad. 2019. Designing for Preregistration: a User-Centered Perspective. In *CHI Conference on Human Factors in Computing Systems Extended Abstracts (CHI'19 Extended Abstracts), May 4-9, 2019, Glasgow, Scotland UK*. ACM, New York, NY, USA, 6 pages. https://doi.org/10.1145/3290607.3312862

2018 Kay, Matthew, **Xiaoying Pu**, and Frederick Conrad. 2018. Preregistration: Assessing Whether the Pledge Matches the Report. Presentation at the *APA Annual Convention, San Francisco, CA*.

2014 **Pu, Xiaoying** and C.S. Kirby. 2014. Feasibility of using freshwater mussels to monitor Ba and Sr contamination due to shale gas flowback water in Pennsylvania streams. *Geological Society of America Abstracts with Programs, Vol. 46, No. 6, p.315*.

Teaching

Graduate Student Instructor

Duties include discussion sections and office hours.

Winter 2021 EECS 203 - Discrete Mathematics

Undergraduate Teaching Assistant

Duties include assisting the instructor and answering student questions.

Spring 2016 CSCI 204L - Introduction to Computer Science II lab
CSCI 206L - Computer Organization and Programming lab
Fall 2016 CSCI 208L - Programming Languages lab
Fall 2014 PHYS 211L - Classical & Modern Physics lab

Teaching Training

Spring 2017 UNIV 239 - Working with Writers: Theory and Practice

Paper Reviews

2020	CHI 2020 Papers
2019	CHI 2019 Late Breaking Work, alt.chi
	VIS 2019 InfoVis Papers

Service

2019-2020	Data Visualization Rackham Interdisciplinary Workshops
2018 - 2019	Middle school outreach program with GirlsEncoded
Spring 2016	President. Bucknell ACM Women-in-Computing Chapter
Jan. 2016	First Bucknell Admissions Outreach for promoting diversity