

# Warren Li

*Learning Analytics & Educational Data  
Mining Researcher*

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## Education

2018–2023 **PhD in Information**, *School of Information, University of Michigan, Ann Arbor.*

2017 **BS in Engineering Physics**, *University of Missouri, St. Louis.*  
Summa Cum Laude (top 3%)

2017 **BA in Mathematics**, *University of Missouri, St. Louis.*  
Summa Cum Laude (top 3%)

**Minor in Computer Science**, *University of Missouri, St. Louis.*

## Research Experience

May 2018 – Present **Graduate Student Research Assistant (GSRA)**, UNIVERSITY OF MICHIGAN: SCHOOL OF INFORMATION.

Research interests include educational predictive modeling, network analysis, and using machine learning approaches to personalize feedback at scale

Advised by Prof. Christopher Brooks and member of the Educational Technology Collective (ETC) lab group

June 2016 – August 2016 **Nuclear Physics Research Intern**, WAYNE STATE UNIVERSITY: DEPARTMENT OF PHYSICS AND ASTRONOMY.

Analyzed large datasets from simulated collision events to study experimental effects such as variation of the collision vertex and experimental inefficiencies on rapidity correlations

Published a final report and presentation summarizing key results as part of the Research Experiences for Undergraduates Program (REU) funded by the National Science Foundation

January 2015 – May 2015 **Research Assistant**, UNIVERSITY OF MISSOURI - ST. LOUIS: DEPARTMENT OF PHYSICS AND ASTRONOMY.

Performed reduction processes and generated emission spectra on observation data from the CSHELL spectroscopy at NASA's Infrared Telescope Facility in Mauna Kea, Hawaii

Presented a poster at the Undergraduate Research Symposium (URS) and was awarded best poster in the department

## Teaching and Mentoring Experience

January 2019 – June 2019 **Course Content Assistant (CCA)**, UNIVERSITY OF MICHIGAN: SCHOOL OF INFORMATION.

Developed course content including lecture scripts and assignments for the Visual Exploration of Data (VED) course in the Master's of Applied Data Science (MADS) online degree program

Worked closely with other UM stakeholders to provide weekly updates, including teaching faculty, coordinators, and production staff from the Office of Academic Innovation (AI)

October 2016 **Teaching Fellow**, THE LAUNCHCODE FOUNDATION.

– May 2017 Created and shared lesson plans and supplemental projects (<https://bit.ly/2Hc3fS0>), which were highly rated by students and promoted by the lead instructor

Volunteered over 50 hours outside of class answering emails, monitoring discussion boards, and conducting study sessions

August 2015 – **Mathematics Tutor**, UNIVERSITY OF MISSOURI - ST. LOUIS: MATH AND WRITING  
May 2017 ACADEMIC CENTER.

Instructed students on a walk-in basis with algebra, probability and statistics, and calculus; occasionally tutored differential equations, linear algebra, and discrete mathematics

Supervised the study area, answered phone calls and other inquiries, and directed students to additional academic support services as needed

August 2014 – **Peer Tutor**, UNIVERSITY OF MISSOURI - ST. LOUIS: OFFICE OF MULTICULTURAL  
Dec. 2016 STUDENT SERVICES.

Arranged initial appointments to analyze clients learning needs and designed individualized plans to improve academic performance

Conducted one-on-one private tutoring sessions (algebra/calculus/PRAXIS exam preparation) and ensured that all assigned tutees passed their respective classes

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## Industrial Experience

January 2015 **Software Developer Intern**, WORLD WIDE TECHNOLOGIES (WWT): ASYNCHRONY  
– May 2015 LABS.

Worked on an agile team to develop Qwizard, a responsive web application used for internal company communications (<https://github.com/Liwmo/qwizard>)

Provided feedback to team members and organized demonstrations during stakeholder meetings

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## Publications

- 1 **Li, W.**, Brooks, C., & Schaub, F. (2019). *The Impact of Student Opt-Out on Educational Predictive Models*. In Proceedings of the 9th International Conference on Learning Analytics & Knowledge (pp. 411-420). ACM.
- 2 Gardner, J., Brooks, C., & **Li, W.** (2018). *Learn from Your (Markov) Neighbour: Co-Enrollment, Assortativity, and Grade Prediction in Undergraduate Courses*. Journal of Learning Analytics, 5(3), 42-59.

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## Talks and Presentations

- 1 **Li, W.**, Brooks, C., & Schaub, F. The Impact of Student Opt-Out on Educational Predictive Models. Presented at the 9th International Conference on Learning Analytics & Knowledge (LAK). Tempe, AZ. March 7, 2019

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## Honors and Awards

- 2017 Jeffrey Earl Award for Outstanding Senior in Physics (\$500)
- 2016 Junior Alumni Award (\$500)

- 2015 Global Hack IV: College Division Team Winner (\$5,000)
- 2015 Undergraduate Research Symposium Best Poster Award (\$250)
- 2015 Bright Flight Scholarship (\$9,000)
- 2015 Curators' Scholarship (\$21,000)

## Service

- 2018 **Reviewer** for the Learning Analytics and Knowledge Conference (LAK): full papers and posters
- 2017 First annual University of Missouri - St. Louis Hackathon (UMSLHack) volunteer **mentor** for the 3rd place team
- 2015-2016 Physics club **comptroller** for the University of Missouri - St. Louis chapter of the Society of Physics Students (SPS)

## Grants and Fellowships

- 2019 UMSI Travel Grant (\$700)
- 2019 Rackham Travel Grant (\$800)
- 2019 National Science Foundation: Graduate Research Fellowship (\$138,000)

## Projects

- Spring 2017 Correcting Errors in Private Communications Between Synchronized Chaotic Circuits  
*Prof. Bernard Feldman, Advanced Physics Laboratory: Independent Senior Project*
- Summer 2016 Experimental Effects on Rapidity Correlations  
*Prof. W.J. Llope, Wayne State University, Department of Physics and Astronomy*
- Spring 2015 Ice Abundances in Comet C/2002 T7  
*Prof. Erika Gibb, University of Missouri-St. Louis, Department of Physics and Astronomy*

## Technical Skills

- Programming PYTHON, R, OCTAVE, JULIA, JAVA, C++, SQL, HTML, JAVASCRIPT
- Frameworks and Tools NUMPY/MATPLOTLIB/PANDAS, SCIKIT-LEARN, TENSORFLOW, PYTORCH, NLTK, GENSIM, L<sup>A</sup>T<sub>E</sub>X, CSS, NODE.JS, ANGULARJS, JQUERY, GIT, IDL, ROOT

## Coursework

- Residential Courses Regression and Data Analysis, Natural Language Processing: Algorithms and People, Computational Data Science and Machine Learning, Nonlinear Dynamics and Chaos Theory, Coding Theory, Theory of Social and Technological Networks\*, Cognition, Communication, and Measurement Error, Psychometric Theory: Classical and Latent Trait Models\*

- Online Courses Machine Learning, Deep Learning, Artificial Intelligence, Bayesian Statistics: From Concept to Data Analysis, Algorithms: Design and Analysis

\* -To be completed by Dec 2019

## Languages

- Cantonese Speaking: Conversational, Reading/Writing: Intermediate
- Mandarin Speaking: Conversational, Reading/Writing: Intermediate

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## References

- 1 Dr. Christopher Brooks  
University of Michigan  
Assistant Professor of Information, Director of Learning Analytics and Research  
broosch@umich.edu, (734) 764-6555
- 2 Dr. Bernard Feldman  
University of Missouri - St. Louis  
Professor of Physics, Associate Dean of the Joint Undergraduate Engineering Program  
feldmanb@msx.umsl.edu, (314) 516-6805
- 3 Dr. Sonya Bahar  
University of Missouri - St. Louis  
Professor of Biophysics, Director of the Center for Neurodynamics  
bahars@umsl.edu, (314) 516-7150
- 4 Dr. Erika Gibb  
University of Missouri - St. Louis  
Professor of Astrophysics, Chair of the Department of Physics and Astronomy  
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