Siqi Wu

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RESEARCH SUMMARY

I aim to derive principles for responsible social systems, with my core expertise in large-scale quantitative analysis and collaboration with experts in social science, communication, and political science. I work towards my goal through a variety of methods – from curating unique social media datasets, to modeling collective user behavior, to building algorithmic audits for identifying negative platform effects, to designing and testing new HCI systems.

PROFESSIONAL EXPERIENCE

Research Fellow | University of Michigan. Ann Arbor, MI, USA   *2021.01 − present*
- Center for Social Media Responsibility. Adviser: Paul Resnick
Projects include (1) measuring cross-partisan discussions on YouTube; (2) characterizing concept difference and (3) quantifying the impacts of annotator demographics in labeling hate, offensive, and toxic social media content; (4) calibrating prevalence estimation methods for online problematic speech; (5) designing effective training procedure for crowdsourced labeling; (6) auditing polarized recommendations in YouTube recommender system.

Research Fellow | Australian National University. Canberra, ACT, Australia   *2020.09 − 2021.03*
- Computational Media Lab. Adviser: Lexing Xie
Projects include (1) measuring collective human attention across different social platforms; (2) picturing global media consumption during COVID-19.

Software Engineer | MicroStrategy, Inc. Hangzhou, Zhejiang, China   *2015.09 − 2016.05*
- Big Data Engine team. Built Apache Spark alike engine to process massive data.

Software Developer Intern | Baidu, Inc. Beijing, China   *2014.12 − 2015.02*
- Baidu Maps team. Developed a tool to collect real time traffic status.

EDUCATION

Australian National University. Canberra, ACT, Australia   *2016.06 − 2021.04*
- PhD in Computer Science. Advisers: Lexing Xie and Marian-Andrei Rizoiu
- Thesis: Measuring collective attention in online content: Sampling, engagement, and network effects

University of Melbourne. Melbourne, VIC, Australia   *2013.07 − 2015.07*
- Master of Information Technology. Adviser: Richard Sinnott
- Thesis: An architecture for big data processing and visualisation of traffic data

Tianjin University. Tianjin, China   *2008.09 − 2012.06*
- Bachelor of Electronics Engineering. Adviser: Yugong Wu

AWARDS

- AAAI ICWSM Best Senior Program Committee *'22, '23*
- AAAI ICWSM Spotlight Paper *'21*
- ACM CSCW Best Paper Honorable Mention *'19*
- Google PhD Fellowship *'18*

PUBLICATIONS

* Equal authorship

14. YouTube users unaware of effective ways to remove unwanted recommendations
    Liu, **Wu**, and Resnick. *ICWSM '24*. Full paper

13. The shapes of the fourth estate during the pandemic: Profiling COVID-19 news consumption in eight countries
    Yang, Xie, and **Wu**. *CSCW '23*. Full paper

12. Prevalence estimation in social media using black box classifiers
    Wu and Resnick. *ICWSM '23*. Tutorial

11. Just another day on Twitter: A complete 24 hours of Twitter data
    Pfeffer et al. *ICWSM '23*. Dataset paper

10. Whose advantage? Measuring attention dynamics across YouTube and Twitter on controversial topics
    Lee*, **Wu***, Ertugrul*, Lin, and Xie. *ICWSM '22*. Full paper

9. Cross-partisan discussions on YouTube: Conservatives talk to liberals but liberals don't talk to conservatives
   Wu and Resnick. *ICWSM '21*. Full paper, **spotlight paper (top 8)**

8. AttentionFlow: Visualising influence in networks of time series
   Shin*, Tran*, **Wu***, Mathews, Wang, Lyall, and Xie. *WSDM '21*. Demo paper

7. Unsupervised cyberbullying detection via time-informed Gaussian mixture model
   Cheng, Shu, **Wu**, Silva, Hall, and Liu. *CIKM '20*. Full paper

6. Variation across scales: Measurement fidelity under Twitter data sampling
   Wu, Rizoiu, and Xie. *ICWSM '20*. Full paper

5. Estimating attention flow in online video networks
   Wu, Rizoiu, and Xie. *CSCW '19*. Full paper, **best paper honorable mention (top 5%)**

4. How is attention allocated? Data-driven studies of popularity and engagement in online videos
   Wu. *WSDM '19*. Doctoral consortium

3. Beyond views: Measuring and predicting engagement in online videos
   Wu, Rizoiu, and Xie. *ICWSM '18*. Full paper

2. Will this video go viral? Explaining and predicting the popularity of YouTube videos
   Kong, Rizoiu, **Wu**, and Xie. *WWW '18*. Demo paper

1. SMASH: A cloud-based architecture for big data processing and visualization of traffic data
   Wu, Morandini, Sinnott. *DSDIS '15*. Full paper

TEACHING

- Teaching assistant in ANU graduate course COMP6490 Document Analysis (*'17, '18*)
- Teaching assistant in ANU undergraduate course COMP1030 Art of Computing (*'17*)

STUDENTS

- Alexander Liu (UMich PhD)
- Zain Padamsee (Bowdoin College undergrad)
- Cai Yang (ANU undergrad)

SERVICES

- ICWSM *'23* poster, demo, and dataset track co-chair
- ICWSM *'22* student volunteer and scholarship chair

- Senior program committee: ICWSM (’22, ’23)
- Conference program committee/reviewer: ICWSM (’17, ’18, ’21), CSCW (’19-’23), WWW (’19, ’20, ’23), WebSci (’22, ’23), ICIS (’22, ’23), IC2S2 (’23), CIKM (’23), ASONAM (’21, ’22), AAAI (’19)
- Ad hoc journal reviewer: EPJ Data Science, Collective Intelligence, Social Science Computer Review, ACM TOIS

MISC.

- Organizing: co-organized the Computational Media Lab winter workshop '19
- Running: 20 100+km events, 60+ (ultra) marathons finisher, 2:42 marathon