Aniko Hannak

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Assistant Professor
Department of Informatics
University of Zürich
Zürich, Switzerland

Research Interests

Algorithmic Auditing Systems: design, deployment and scaling of auditing pipelines; quantifying the "filter bubble"; transparency and accountability of algorithmic systems; potential harmful effects of big data algorithms.

Fairness in Algorithmically-aided Systems: theoretical fairness definitions and guarantees; agent-based modeling and simulations; effects of interface design on inequality; adapting offline policy solutions to online systems.

Measuring Inequality in Online Labor Markets: impact of online labor markets on the labor economy; racial and gender discrimination; large-scale empirical analysis of employment related online platforms; combining qualitative and quantitative research; disentangling mechanisms behind discrimination.

Ethics and Validity of Digital Trace Data: bias and representativity problems of big data; privacy and security issues for users; ethical and legal considerations of working with digital trace data.

Education

Ph.D. Computer Science	**2010 – 2016**	**Northeastern University**

Advisors: Alan Mislove and David Lazer
Thesis: Personalization in Online Services: Measurement, Analysis, and Implications
Defense: 06/19/2016, Boston

B.S., Applied Math	**2005 – 2010**	**Eötvös Lóránd University, Hungary**

Advisor: Katalin Vesztergombi
Thesis: Crossing Numbers and Related Problems of Unit Distances in the Plane

Professional Experience

Chair of Social Computing	**2019 – present**	**University of Zürich**
Assistant Professor	**2018 – 2019**	**CSH & WU, Vienna**
Postdoctoral Fellow	**2016 – 2017**	**CNS at CEU, Budapest**

Gendered Creative Teams project sponsored by the Intellectual Themes Initiative

Visiting Researcher	**2015**	**GESIS, Köln, Germany**

Primary Collaborators: Markus Strohmaier, Claudia Wagner

Research Intern	**2014**	**Prezi, Budapest, Hungary**
Research Intern	**2013**	**HP Labs, Social Computing Group**

Mentors: Bernardo Huberman, Sitaram Asur

Principal Investigator: Albert-Laszlo Barabasi

Conference and Workshop Papers

All papers available at http://ancsahannak.me/#publications. Citation counts and other information available at https://scholar.google.hu/citations?user=LBVvsn8AAAAJ.

J. Wachs, B. Daroczy, **A. Hannak**, K. Pall, C. Riedl: And Now for Something Completely Different: Visual Novelty in an Online Network of Designers, Proceedings of the 10th ACM Conference on Web Science (WebSci'18), Amsterdam, May, 2018

E. Horvat, J. Wachs, R. Wang, **A. Hannak**: The Role of Novelty in Securing Investors for Equity Crowdfunding Campaigns, AAAI Conference on Human Computation and Crowdsourcing (HCOMP'18), Zurich, Switzerland, 2018

L. Chen, **A. Hannak**, R. Ma, C. Wilson: Investigating the Impact of Gender on Rank in Resume Search Engines, ACM Human Factors in Computing Systems [CHI18], Montreal, Canada, Apr. 2018

A Chakraborty, **A Hannak**, AJ Biega, KP Gummadi: Fair Sharing for Sharing Economy Platforms, FATREC Workshop on Responsible Recommendation at RecSys 2017, Como, Italy, Aug 2017

J. Wachs, **A. Hannak**, B. Daroczy and A. Voros: Why Do Men Get More Attention? Exploring Factors Behind Success in an Online Design Community**,** Proceedings of the 11th International AAAI Conference on Weblogs and Social Media (ICWSM'17), Montreal, Canada, May 2017

A. Hannak, C. Wagner, D. Garcia, A. Mislove, M. Strohmaier and C. Wilson: Bias in Online Freelance Marketplaces: Evidence from TaskRabbit and Fiverr, In Proceedings of the 20th ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW 2017), Portland, OR, February, 2017

C. Kliman-Silver, **A. Hannak**, D. Lazer, C. Wilson, A. Mislove, Location, location, location: The impact of geolocation on web search personalization, Proceedings of the 2015 ACM Conference on Internet Measurement Conference, Tokyo, Japan, Oct 2015

A Hannak, C Wagner, D Garcia, M Strohmaier, C Wilson, Bias in Online Freelance Marketplaces: Evidence from TaskRabbit, Proceedings of the Workshop on Data and Algorithm Transparency

A. Hannak, G.Soeller, D. Lazer, A. Mislove, C. Wilson: Measuring Price Discrimination and Steering on E-commerce Sites, In Proceedings of the 14th ACM/UNSENIX Internet Measurement Conference (IMC'14), Vancouver Canada, November 2014

A. Hannak, D. Margolin, B. Keegan, I. Webers: Get back! You don't know me like that: The social mediation of fact-cheking Interventions in Twitter, In Proceedings of the 8th International AAAI Conference on Weblogs and Social Media (ICWSM'14), Ann Arbor, MI, June 2014

A. Hannak, P. Sapiezynski, A. Molavi Kakhki, B. Krishnamurthy, D. Lazer, A. Mislove, C. Wilson: Measuring Personalization of Web Search, Proceedings of the 22nd International World Wide Web Conference (WWW'13), Rio de Janeiro, Brazil, May 2013

A. Hannak, E Anderson, LF Barrett, S Lehmann, A Mislove, M Riedewald, Tweetin' in the Rain: Exploring Societal-scale Effects of Weather on Mood, Proceedings of the 6th International AAAI Conference on Weblogs and Social Media (ICWSM'12], Dublin, Ireland, June 2012

Journals and Other Submissions

A. May, J. Wachs, A. Hannak: Gender Differences in Participation and Reward on Stack Overflow, Empirical Software Engineering, (2019): 1-23

E. Bokányi, A. Hannák. "Ride-share matching algorithms generate income inequality." *arXiv preprint arXiv:1905.12535* (2019).

D. Margolin, **A. Hannak**, I. Weber: Political Fact-checking on Twitter: When Do Corrections Have an Effect? In the Journal of Political Communication, 1-24, Sept. 2017

A. Hannak, P. Sapieżyński, A. Molavi Khaki, D. Lazer, A. Mislove, C. Wilson, Measuring Personalization of Web Search, *CoRR*, abs/1706.05011, June 2017

A. Molavi, **A. Hannak**, A. Mislove, R. Sundaram: Mitigating Sybil attacks on content rating systems, ACM Symposium on Operating Systems Principles, Lisbon, Portugal, Oct 2011

Funding and Awards

Inequality in Online Labor Markets, Russel Sage Foundation, 2017-2019, Award number 92-17-03, $113,628

Girls Who Code: Gender Differences in Behavior and Outcome on Stack Overflow, European Symposium on Societal Challenges in Computational Social Science, London, UK, Nov. 2017, **Best presentation award**

Professional Service

Organizer

Chair of Diversity at Conference on Fairness, Accountability, and Transparency [FAT*]	2019
Complex Systems Perspectives on Algorithmic Bias workshop at ICWSM	2019
APEN, workshop at ICWSM	2018
Gendered Creative Teams Workshop, CEU	2017
Science Slam at the International Conference of Weblogs and Social Media	2015-present

Program Committee Member

Conference on Fairness, Accountability, and Transparency [FAT*]	2018, 2019
"Web and Society" research paper track at the 27th World Wide Web Conference [WWW]	2018
Opinions, Personality, and Emotions in Social media (PEOPLE)	2018
International Conference on Computational Social Science [IC2S217]	2017
Computational Social Science Winter Symposium	2015-present
AAAI International Conference on Weblogs and Social Media (ICWSM)	2015-present
ACL Workshop on NLP and Social Dynamics [ACL-NLPSD]	2014

Other Reviewing Experience

ACM Computer-Supported Cooperative Work [CSCW]		2017
ACM Human Factors in Computing Systems (CHI)		2017

Invited Talks

Women in Data Science Conference, Keynote Talk, March 2019, Budapest

Human and Machine Bias roundtable at the conference "Gender & Technology: How to debias the workplace", Harvard Kennedy School, Women and Public Policy, Boston, May 2018

How to Debunk the Filter Bubble, Media Convention 2018, Berlin

The Branching Pipeline: Understanding Gender Disparities Within and Across Fields, European Symposium on Societal Challenges in Computational Social Science, London, UK, Nov. 2017

Fair Sharing in Sharing Economy Platforms, European Symposium on Societal Challenges in Computational Social Science, London, UK, Nov. 2017

New Faces of Bias in Online Labor Markets, Keynote Speaker at the Complex Networks conference, Dubrovnik, Croatia, March 2017

Challenges of Measuring Inequality in Online Labor Markets: Dagstuhl Seminar on Online Privacy and Web Transparency, Dagstuhl, Germany, Apr 2017

Power of Digital Research, Digital Methods Roundtable at the International Communication Association (ICA) 2016 Annual meeting, Fukuoka, Japan, 2016

Teaching Experience

Lecturer	**2018 Winter**	**WU, Wien**
Data Processing – Undergraduate level course		
Lecturer	**2017 Summer**	**Sardinia, Italy**
Summer School on Methods for Computational Social Science - Data collection methods and biases in digital trace data		
Lecturer	**2018 Winter**	**CEU, Budapest**
Data Management with Python – Masters level course		
Lecturer	**2015 Fall**	**AIT, Budapest**
Datamining – Undergraduate level course for American exchange students		
Teaching Assistant	**2011 Spring**	**Northeastern University**
Logic and Computation - introduction to formal logic for undergraduate students		
Teaching Assistant	**2010 Fall**	**Northeastern University**
Discrete Structures - introductory course to mathematics, logic, and computer science for undergraduates		

Selected Press Coverage

Studies Show Racial and Gender Discrimination Throughout the Gig Economy
Bloomberg, November 22, 2016

Is the Gig Economy Rigged?
MIT Tech Review, November 17, 2016

No one in control: The algorithms that run our lives
New Scientist, February 4, 2015

Why You Can't Trust You're Getting the Best Deal Online
The Wall Street Journal, October 23, 2014

If you use a Mac or an Android, e-commerce sites may be charging you more
The Washington Post, November 3, 2014

Why Some People Pay More Than Others When Shopping Online
The Huffington Post, November 6, 2014

Google's Searches Narrowing Our Experience
The Saturday Post, June 7, 2014

References

Professor David Lazer
Full Professor, Department of Political Science and College of Computer and Information Science, Northeastern University
Visiting Scholar, John F. Kennedy School of Government, Harvard University
davelazer@gmail.com

Professor Alan Mislove
Assistant Professor, College of Computer and Information Science, Northeastern University
amislove@ccs.neu.edu

Professor Markus Strohmaier
Professor for Methods and Theories of Computational Social Sciences and –Humanities, RWTH Aachen University, HumTec Institute, Germany
Scientific Coordinator for Digital Behavioral Data, GESIS - Leibniz Institute for the Social Sciences, Cologne, Germany
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Professor Christo Wilson
Assistant Professor, College of Computer and Information Science, Northeastern University
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