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EDUCATION Ph.D., Informatics, Complex Systems track, Indiana University
M.S., Theoretical Physics, Lanzhou University (China)
B.S., Theoretical Physics, Lanzhou University (China)

August 2017—
June 2017
June 2014

AWARDS

- IU School of Public Health Big Idea Challenge (\$250) 2020
- Informatics Ph.D. Student Conference Travel Awards (\$1000) 2020
- IU GISA Conference Travel Awards (\$700) 2019
- Informatics Ph.D. Student Conference Travel Awards (\$1000) 2019
- NSF Research Trainee scholarship in Complex Networks and Systems (\$5000) 2018

RESEARCH **Bad actors on social media** PI: Filippo Menczer

PROJECTS

- Social bot detection: **Botometer**[®] [P4, J3], BotometerLite [C1]
- Bot amplification detection & visualization: **BotSlayer** [W2, J4], BEV [W3], **Hoaxy**[®]
- Misinformation & bots [W1, J7]
- Human bias & bots [J2]
- Social media ecosystem bias [P1, P5]

Opioid epidemic PIs: Brea Perry, Yong-Yeol Ahn

- High risk patients detection [P2, J5]
- Policy effects [P3]

Network science

- Network embedding [P6]
- Spreading phenomena [J6, J8]

PUBLICATIONS **Working Papers**

- P1. **Yang, K.-C.**, Hui, P.-M. & Menczer, F. How Twitter Data Sampling Biases U.S. Voter Behavior Characterizations. *arXiv preprint arXiv:2006.01447* (2020).
- P2. Aronson, B., **Yang, K.-C.**, Odabas, M., Ahn, Y. Y. & Perry, B. L. Comparing Measures of Centrality in Bipartite Social Networks: A Study of Drug Seeking for Opioid Analgesics. *SocArXiv preprint. osf.io/preprints/socarxiv/hazvs* (2020).
- P3. Lee, B., Zhao, W., **Yang, K.-C.**, Ahn, Y.-Y. & Perry, B. Unintended Consequences of State Policy Interventions in the US Opioid Crisis. *In submission* (2020).
- P4. Sayyadiharikandeh, M., Varol, O., **Yang, K.-C.**, Flammini, A. & Menczer, F. Detection of Novel Social Bots by Ensembles of Specialized Classifiers. *arXiv preprint arXiv:2006.06867* (2020).

- P5. Wen, C., Pacheco, D., **Yang, K.-C.** & Menczer, F. Neutral Bots Reveal Political Bias on Social Media. *arXiv preprint arXiv:2005.08141* (2020).
- P6. Yoon, J., **Yang, K.-C.**, Jung, W.-S. & Ahn, Y.-Y. Persona2vec: A Flexible Multi-role Representations Learning Framework for Graphs. *arXiv preprint arXiv:2006.04941* (2020).

Journal Articles

- J1. **Yang, K.-C.**, Aronson, B. & Ahn, Y.-Y. BiRank: Fast and Flexible Ranking on Bipartite Networks with R and Python. *Journal of Open Source Software* **5**, 2315 (2020).
- J2. Yan, H., **Yang, K.-C.**, Menczer, F. & Shanahan, J. Asymmetrical Perceptions of Partisan Political Bots. *New Media & Society*. doi:10.1177/1461444820942744 (2020).
- J3. **Yang, K.-C.**, Varol, O., Davis, C. A., Ferrara, E., Flammini, A. & Menczer, F. Arming the public with artificial intelligence to counter social bots. *Human Behavior and Emerging Technologies*, e115 (2019).
- J4. Hui, P.-M., **Yang, K.-C.**, Torres-Lugo, C., Monroe, Z., McCarty, M., Serrette, B., Pentchev, V. & Menczer, F. BotSlayer: real-time detection of bot amplification on Twitter. *Journal of Open Source Software* **4**, 1706 (2019).
- J5. Perry, B. L., **Yang, K.-C.**, Kaminski, P., Odabas, M., Park, J., Martel, M., Oser, C. B., Freeman, P. R., Ahn, Y.-Y. & Talbert, J. Co-prescription network reveals social dynamics of opioid doctor shopping. *PLoS one* **14**, e0223849 (2019).
- J6. Zhang, Y.-J., Wu, Z.-X., Holme, P. & **Yang, K.-C.** Advantage of Being Multicomponent and Spatial: Multipartite Viruses Colonize Structured Populations with Lower Thresholds. *Physical Reviews Letters* **123**. (Editors' Suggestion), 138101 (2019).
- J7. Shao, C., Ciampaglia, G. L., Varol, O., **Yang, K.-C.**, Flammini, A. & Menczer, F. The spread of low-credibility content by social bots. *Nature communications* **9**, 4787 (2018).
- J8. **Yang, K.-C.**, Wu, Z.-X., Holme, P. & Nonaka, E. Expansion of cooperatively growing populations: Optimal migration rates and habitat network structures. *Physical Reviews E* **95**, 012306 (2017).

Peer-reviewed Conference Proceedings

- C1. **Yang, K.-C.**, Varol, O., Hui, P.-M. & Menczer, F. *Scalable and Generalizable Social Bot Detection through Data Selection* in *Proceedings of the AAAI Conference on Artificial Intelligence* **34** (New York, NY, USA, 2020), 1096–1103.

Peer-reviewed Workshop/Demo Papers

- W1. **Yang, K.-C.**, Torres-Lugo, C. & Menczer, F. *Prevalence of Low-Credibility Information on Twitter During the COVID-19 Outbreak* in *Proc. ICWSM Intl. Workshop on Cyber Social Threats (CySoc)* (Virtual, 2020).
- W2. Hui, P.-M., **Yang, K.-C.**, Torres-Lugo, C. & Menczer, F. *BotSlayer: DIY Real-Time Influence Campaign Detection* in *Proceedings of the International AAAI Conference on Web and Social Media* **14** (Virtual, 2020), 980–982.
- W3. **Yang, K.-C.**, Hui, P.-M. & Menczer, F. *Bot Electioneering Volume: Visualizing Social Bot Activity During Elections* in *Companion Proceedings of The 2019 World Wide Web Conference* (San Francisco, CA, USA, 2019), 214–217.

- Four talks and one poster
IC²S² 2020 (Virtual) July 2020
- Tutorial: Identifying Social Media Manipulation with OSoMe Tools
IC²S² 2020 (Virtual) July 2020
- Prevalence of Low-Credibility Information on Twitter During the COVID-19 Outbreak
CySoc 2020 (Virtual) June 2020
- BotometerLite
AAAI 2020 (New York, USA) February 2020
- Bot Electioneering Volume
CyberSafety 2019 (San Francisco, USA) May 2019
- Expansion of Cooperatively Growing Populations on Networks
Chinese Physical Society Fall Meeting (Beijing, China) September 2016

TEACHING **Associate Instructor, Indiana University**
I590 Applied Data Science Fall 2017, Spring 2018

APPOINTMENTS **Research Assistant, Indiana University**
Doctor shopping project Fall 2018 – Summer 2020

SERVICE **Journal Reviewer**

- Social Network Analysis and Mining
- ACM Digital Threats: Research and Practice
- IEEE Internet Computing
- PeerJ Computer Science

Conference Reviewer

- ICWSM'20, '21

IN THE PRESS **Selected media coverages**

- Low-credibility information on twitter during the COVID-19 outbreak [W1]
 - *IEEE Spectrum* (July 2020)
- Asymmetrical perceptions of partisan political bots [J2]
 - *IU the Media School Report* (July 2020)
- BotSlayer [W2, J4]
 - *IU news* (September 2019)
 - *IDS news* (September 2019)
 - *Science Node* (September 2019)
- The spread of low-credibility content by social bots [J7]
 - *IU news* (November 2018)
 - *ScienceNews* (November 2018)

Last updated: July 30, 2020