# Ryen W. White, Ph.D.

ryenwhite@gmail.com

Microsoft Web: http://www.ryenwhite.com
Redmond, WA 98052 USA Telephone: +1 425 707 1051

# **Biography**

Ryen White is a Vice President of Applied Science at Microsoft. He leads the applied science organization for OneDrive and SharePoint (ODSP), part of the Experiences and Devices division. His research takes a user- and task-centric view on AI, with a focus on search, knowledge, and assistance. Most recently, Ryen served as Partner Research Director, Deputy Lab Director, and General Manager of Microsoft Research in Redmond. He previously led the applied science organization for the Microsoft Cortana digital assistant and was chief scientist for Microsoft Health, establishing a science culture and infusing AI in both products. Technology derived from his and his team's research has shipped and significantly improved key business metrics in many Microsoft products, including Bing (e.g., using context to improve search relevance for well over half of all Bing traffic), Xbox, Internet Explorer, Skype, Dynamics, Health, Windows, Cortana, and Office (Outlook, Teams, Planner, To Do, Word), and Azure. Ryen is a Fellow of the ACM and of the British Computer Society. He is an Affiliate Professor at the University of Washington. Ryen has published over 300 articles on search and related areas, including significant work on mining and modeling search activity at scale. He has been awarded 75 patents. In 2017, Ryen was named "Center of the SIGIR Universe" (most central author in the coauthorship graph) in the 40 years of ACM SIGIR, the top search conference. He has received over 20 awards for his technical contributions, including three SIGIR Best Paper awards and two SIGIR Test of Time awards. Ryen's PhD work received the British Computer Society's Distinguished Dissertation Award for the best Computer Science Ph.D. dissertation in the UK. He has received the Karen Spärck Jones Award (2014) and the Tony Kent Strix Award (2022) for outstanding contributions to search. Ryen is one of a handful of scientists who are members of both the SIGIR and the SIGCHI Academies. One of his books, "Interactions with Search Systems," received the ASIS&T Best Information Science Book Award (2017). Ryen was program chair for The Web Conference 2019 and SIGIR 2017. He was SIGIR Vice Chair and is EiC of ACM Transactions on the Web.

# **Professional Experience**

Vice President, Applied Science	2025 – present
Microsoft, Redmond, USA	
Affiliate Full Professor	2021 – present
iSchool and School of Computer Science & Engineering, University of Washington, Seattle, USA	4
General Manager and Deputy Lab Director	2022 – 2025
Microsoft Research, Redmond, USA	
Partner Research Director	2020 – 2025
Microsoft Research, Redmond, USA	
Partner Research Manager	2018 – 2020
Microsoft Research, Redmond, USA	
Director of Applied Science	2017 – 2018
Microsoft Cortana, Bellevue, USA	
Chief Scientist	2015 – 2017
Microsoft Health, Redmond, USA	
Sr Principal Researcher	2006 – 2017
Microsoft Research, Redmond, USA	
Research Scientist	2004 – 2006
Institute for Advanced Computer Studies, University of Maryland, College Park, USA	

#### Education

**Ph.D.** Computer Science, University of Glasgow, UK

Defended 2004

Advisors: Joemon M. Jose, Ian Ruthven, C.J. van Rijsbergen

Graduated 2005

Dissertation: "Implicit Feedback for Interactive Information Retrieval"

Winner of the British Computer Society Distinguished Dissertation Award

B.Sc. (Hons) Computer Science and Management Studies, University of Glasgow, UK

2001

## **Honors and Awards**

### Best Paper Award

For "AutoGen: Enabling Next-Gen LLM Applications via Multi-Agent Conversation"
ICLR 2024 Workshop on Large Language Model (LLM) Agents [Out of 100+ Accepted Papers]

### ACM SIGCHI Academy (Class of 2024)

For "significant, cumulative contributions to the field of human-computer interaction and influence on the research of others."

#### Test of Time Award

For "Beliefs and Biases in Web Search" [Sole Author] [Also received Best Paper Award in 2013] ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR 2023)

## • ACM SIGIR Academy (Class of 2023)

For "significant, cumulative contributions to the development of the field of information retrieval."

### Tony Kent Strix Award 2022

For "prolific and significant contributions to information retrieval research and development on multiple fronts, most notably the search experience."

#### Test of Time Award

For "Modeling the Impact of Short-and Long-term Behavior on Search Personalization" ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR 2022)

#### ACM Fellow (Class of 2021)

For "contributions to information retrieval, human-computer interaction, and computational health."

#### ASIS&T Best Information Science Book Award 2017

For "Interactions with Search Systems" [Sole Author]

Awarded to the outstanding book in information science published during the preceding calendar year.

#### Best Student Paper Award

For "Analyzing and Predicting Task Reminders"

ACM UMAP Conference on User Modeling Adaptation and Personalization (UMAP 2016)

#### • Best Student Paper Award

For "Struggling and Success in Web Search"

ACM CIKM Conference on Information and Knowledge Management (CIKM 2015)

#### Microsoft BCS/BCS IRSG Karen Spärck Jones Award 2014

For contributions to information retrieval, specifically "to a better understanding of search interaction, e.g., through novel and creative analyses of vital and as of yet unexplored aspects of searcher behavior, closely coupled with the development of models and applications for improving the search experience."

#### Best Paper Award

For "Cross-Device Search"

ACM CIKM Conference on Information and Knowledge Management (CIKM 2014)

#### Best Paper Award

For "Beliefs and Biases in Web Search" [Sole Author]

ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR 2013)

#### Best Paper Award

For "Effects of Community Size and Contact Rate in Synchronous Social Q&A" [First Author] ACM SIGCHI Conference on Human Factors in Computing Systems (SIGCHI 2011)

#### Best Paper Award

For "Assessing the Scenic Route: Measuring the Value of Search Trails in Web Logs" [First Author] ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR 2010)

#### Best Paper Award

For "Evaluating Advanced Search Interfaces Using Established Information-Seeking Models" Journal of the American Society for Information Science and Technology (JASIST 2010)

## Best Paper Award

For "Studying the Use of Popular Destinations to Enhance Web Search Interaction" [First Author] ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR 2007)

#### BCS/CPHC Distinguished Dissertation Award 2005

For "Implicit Feedback for Interactive Information Retrieval"

Awarded to the best Computer Science Ph.D. dissertation in the United Kingdom for 2004/2005.

## Best Student Paper Award

For "A Simulated Study of Implicit Feedback Models" [First Author] European Conference on Information Retrieval (ECIR 2004)

#### Best Paper Award

For "A Granular Approach to Web Search Result Presentation" [First Author]
IFIP TC13 International Conference on Human-Computer Interaction (INTERACT 2003)

#### • UNISYS Executive of Interest Project Prize

Best Undergraduate Computing Science Thesis, University of Glasgow (2000/2001)

# **Honorable Mentions and Best Paper Finalists**

#### Honorable Mention Award

For "Formation of Social Ties Predicts Food Choice: A Campus-wide Longitudinal Study" ACM CSCW Conference on Computer-Supported Cooperative Work and Social Computing (CSCW 2021)

#### Honorable Mention Award

For "VERSE: Bridging Screen Readers and Voice Assistants for Enhanced Eyes-Free Web Search" ACM SIGACCESS Conference on Computers and Accessibility (ASSETS 2019)

#### Honorable Mention Award

For "Exploring Time-Dependent Concerns about Pregnancy and Childbirth from Search Logs" ACM SIGCHI Conference on Human Factors in Computing Systems (SIGCHI 2015)

#### Honorable Mention Award

For "No Clicks, No Problem: Using Cursor Movements to Understand and Improve Search" ACM SIGCHI Conference on Human Factors in Computing Systems (SIGCHI 2011)

#### • Best Paper Finalist

For "Evaluating Search Systems Using Result Page Context" Symposium on Information Interaction in Context (IIiX 2010)

#### • Best Paper Finalist

For "Modeling Long-Term Search Engine Usage" [First Author]
International Conference on User Modeling, Adaptation and Personalization (UMAP 2010)

## **Editor Recommendations**

## Editors' Highlight

For "Disparate Impacts on Online Information Access During the COVID-19 Pandemic" Nature Communications (2022)

#### Editors' Highlight

For "Population-scale dietary interests during the COVID-19 pandemic" Nature Communications (2022)

#### Editors' Choice

For "Early Identification of Adverse Drug Reactions from Search Log Data" [First Author] Journal of Biomedical Informatics (JBI) (2017)

#### Other Awards

## Distinguished Service Award

ACM Transactions on Information Systems (2021)

For over 10 years' service to ACM TOIS, in various roles: Associate Editor (2010-2017), Senior Associate Editor (2017-2021), and acting Editor-in-Chief for select submissions (2018-2021)

#### Center of the SIGIR Universe

Awarded to the author most central in the ACM SIGIR co-authorship graph over 40 years of publications at the SIGIR conference (SIGIR 2017)

#### • John Moyes Lessells Scholarship

Royal Society of Edinburgh (2003)

Competitive award funded visiting researcher position at the University of Washington, Seattle, USA

# **Keynotes and Award Lectures**

- "Tasks, Copilots, and the Future of Search" at the 46th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR 2023), Taipei, Taiwan, July 2023
- "Intelligent Futures in Task Assistance" at the Tony Kent Strix Memorial Lecture, Online, February 2023
- "Mining and Modeling Online Health Search" at the 37th European Conference on Information Retrieval (ECIR 2015), Vienna, Austria, March 2015

## **Editor-in-Chief**

- ACM Transactions on the Web (TWEB) (2021 present) Publisher: ACM
- Information Retrieval Journal (2018 2021) Publisher: Springer Nature

# Editorial Board Memberships, as Associate Editor (AE) and Senior Associate Editor

- Communications of the ACM (2021 2023) [AE, Contributed Articles and Review Articles]
- ACM Transactions on the Web (TWEB) (2011 2021) [Senior AE]
- ACM Transactions on Information Systems (TOIS) (2010 2021) [Senior AE, Acting Editor-in-Chief]
- Information Retrieval Journal (2009 2018) [AE]
- Foundations and Trends in Information Retrieval (FnTIR) (2014 2021) [AE]
- Information Processing and Management (IP&M) (2014 2016) [AE]

# Track/Area Chairing/Senior PC Memberships and Other Notable Reviewing

AAAI: 2017, 2018

- ACM SIGIR CHIIR: 2016, 2017, 2021, 2025
- ACM CIKM: 2010-2012, 2014, 2015-2019 [Research Track and Applied Research Track 2019], 2022-2025
- ACM SIGIR: Program Chair: 2017; Short Papers Chair: 2015; SPC: 2010-2014, 2016, 2018-2023, Area Chair: 2024, 2025
- ACM SIGIR-AP: SPC: 2023
- ACM WSDM: 2012, 2016 2019, 2021 2025, Associate Chair: 2026
- ASIS&T: 2014
- The Web Conference (WWW): Program Chair 2019; Track Chair: 2010, 2011, 2015, 2021; SPC: 2022 (x2), 2023 (x4), 2024 2026, Area Chair: 2026
- ACM SIGKDD: SPC: 2022, Senior Area Chair: 2025
- ECIR: 2025, 2026
- Nature: 2024
- Nature Scientific Reports: 2025
- NeurIPS: 2025

## **Award Committees**

- ACM SIGIR Test of Time: Member: 2020, 2021, 2024
- IW3C2 Seoul Test of Time: Selection Committee Chair: 2023 present, Member: 2020 2022
- IEEE Technical Committee on the Internet (Distinguished Service, Rising Star): Member: 2023
- ACM SIGIR Best Paper: Member: 2023, 2025

## **Other Organizational Roles**

- General Co-Chair of 2026 ACM SIGIR CHIIR Conference on Human-Information Interaction and Retrieval
- Vice Chair of ACM SIGIR (2022 present)
- Co-chair of ACM SIGIR Awards (2020 2022)
- Founder of ACM SIGIR Academy. Chair of selection committee for induction years 2021 and 2022
- Co-chair of ACM WSDM workshop: "Health Search and Data Mining" (2020)
- Technical program co-chair for TheWebConf 2019<sup>1</sup>
- Technical program co-chair for ACM SIGIR 2017
- Founding chair, Steering Committee for ACM SIGIR Conference on Human Information Interaction and Retrieval (2014 – 2016)
- Short papers co-chair for ACM SIGIR 2015
- Guest co-editor of ACM TOIS special issue: "Contextual Search and Recommendation" (2013)
- Co-chair of Human Computer Interaction and Information Retrieval Symposium (2008 2013)
- Co-chair of ACM SIGIR workshop: "Health Search and Discovery" (2013)
- Guest co-editor of Information Processing and Management special issue: "Human-Computer Information Retrieval" (2013)
- Guest co-editor of IEEE Computer special issue: "Information Seeking Support Systems" (2009)
- Treasurer of ACM Conference on Information and Knowledge Management (2008)
- Poster chair of European Conference on Information Retrieval (2008)
- Co-chair of NSF Invitational workshop: "Information Seeking Support Systems" (2008)
- Co-chair of ACM SIGIR workshop: "Web Information Seeking and Interaction" (2007)
- Co-chair of ACM SIGCHI workshop: "Exploratory Search and HCI" (2007)

<sup>&</sup>lt;sup>1</sup> The Web Conference 2019: The Twenty-Eighth International WWW Conference.

- Guest co-editor of Information Processing and Management special issue: "Evaluating Exploratory Search Systems" (2008)
- Co-chair of ACM SIGIR workshop: "Evaluating Exploratory Search Systems" (2006)
- Guest co-editor Communications of the ACM special issue: "Supporting Exploratory Search" (2006)

# **Professional Memberships**

- ACM: Fellow (2021 present), Member (2005 present), SIGIR Member (2005 present)
- British Computer Society: Fellow (2016 present)
- IEEE: Senior Member (2021 present), Member (2020 present)

### **Doctoral Dissertation Committees**

- Jessica Huynh, Carnegie Mellon University, USA
- Andrew Kuznetsov, Carnegie Mellon University, USA
- Akhil Arora, École Polytechnique Fédérale de Lausanne, Switzerland (2024)
- Shawon Sakar, University of Washington, USA (2023)
- Tiziano Piccardi, École Polytechnique Fédérale de Lausanne, Switzerland (2021)
- Hosein Azarbonyad, University of Amsterdam, The Netherlands (2019)
- Roberto González-Ibáñez, Rutgers University, USA (2013)
- Qi Guo, Emory University, USA (2012)

## **Publications**

## **KEYNOTES**

1. **Ryen W. White**. (2023). Tasks, copilots, and the future of search. *Proc. 45th Annual International ACM SIGIR Conference on Research and Development in Information Retrieval*, pp. 5-6.

## **BOOKS**

- 1. **Ryen W. White** and Chirag Shah (eds). (2025). *Information Access in the Era of Generative AI*. Springer The Information Retrieval Series, in press.
- 2. Chirag Shah and **Ryen W. White**. (2021). *Task Intelligence for Search and Recommendation*. Synthesis Lectures on Information Concepts, Retrieval, and Services, 13(3): pp. 1-160. Morgan and Claypool.
- 3. **Ryen W. White**. (2016). *Interactions with Search Systems*. Cambridge University Press: New York, NY. [ASIS&T BEST INFORMATION SCIENCE BOOK AWARD]
- 4. **Ryen W. White** and Resa A. Roth. (2009). Exploratory Search: Beyond the Query-Response Paradigm. *Synthesis Lectures on Information Concepts, Retrieval, and Services*, 1(1): pp. 1-98. Morgan and Claypool.

#### **BOOK CHAPTERS**

1. **Ryen W. White** (2011). Interactive techniques. In Ian Ruthven and Diane Kelly (Eds.), *Interactive Information Seeking, Behaviour and Retrieval*. Facet Publishing: London, UK.

#### **INVITED EDITORIALS**

1. Eric Horvitz and **Ryen W. White** (2017). Making connections: Advancing healthcare research via consumer mobile devices. *Circulation: Cardiovascular Quality and Outcomes*, 10(3).

## **EDITOR (\* JOURNAL SPECIAL ISSUES)**

- Ling Liu, Ryen W. White, Amin Mantrach, Fabrizio Silvestri, Julian McAuley, Ricardo Baeza-Yates, and Leila Zia (2019). Proceedings of the 28th International World Wide Web Conference (WWW 2019). ACM Press.
- 2. Noriko Kando, Tetsuya Sakai, Hideo Joho, Hang Li, Arjen P. de Vries, and **Ryen W. White**. (2017). *Proceedings of the 40th International ACM SIGIR Conference on Research and Development in Information Retrieval* (SIGIR 2017). ACM Press.
- 3. \*Paul N. Bennett, Kevyn Collins-Thompson, Diane Kelly, **Ryen W. White**, and Yi Zhang. (2015). Overview of the Special Issue on contextual search and recommendation. *ACM Transactions on Information Systems*, 33(1), 1e.
- 4. \*Ryen W. White, Rob Capra, Gene Golovchinsky, Bill Kules, Daniel Tunkelang, and Catherine Smith. (2013). Human-Computer Information Retrieval. *Information Processing and Management*, 49(5).
- 5. Rob Capra, Bill Kules, Daniel Tunkelang, and **Ryen W. White**. (2010). *Proceedings of the Fourth Workshop on Human-Computer Information Retrieval (HCIR 2010)*.
- 6. Bill Kules, Daniel Tunkelang, and **Ryen W. White**. (2009). *Proceedings of the Third Workshop on Human-Computer Information Retrieval (HCIR 2009)*.
- 7. \*Gary Marchionini and **Ryen W. White**. (2009). Information-seeking support systems. *IEEE Computer*, 42(3).
- 8. **Ryen W. White**, Daniel Tunkelang, and Bill Kules. (2008). *Proceedings of the Second Workshop on Human-Computer Information Retrieval (HCIR 2008)*.
- 9. Craig Macdonald, ladh Ounis, Vassilis Plachouras, Ian Ruthven, and **Ryen W. White**. (2008). Advances in Information Retrieval: *Proceedings of the 30th European Conference on IR Research*.
- 10. \*Ryen W. White, Gheorghe Muresan, and Gary Marchionini. (2008). Evaluating exploratory search systems. *Information Processing and Management*, 44(2).
- 11. Kerry Rodden, Ian Ruthven, and **Ryen W. White**. (2007). *Web Information Seeking and Interaction: Proceedings of SIGIR 2007 workshop.*
- 12. **Ryen W. White**, Steven M. Drucker, Gary Marchionini, Marti Hearst, and m.c. schraefel. (2007). *Exploratory Search and HCI: Proceedings of SIGCHI 2007 Workshop*.
- 13. **Ryen W. White**, Gheorghe Muresan, and Gary Marchionini. (2006). *Evaluating Exploratory Search Systems: Proceedings of SIGIR 2006 Workshop*.
- 14. \*Ryen W. White, Bill Kules, Steven Drucker, and m.c. schraefel. Supporting exploratory search. *Communications of the ACM*, 49(4).

#### REFEREED JOURNAL ARTICLES

- 1. Chirag Shah and Ryen W. White. (2025). Agents are not enough. IEEE Computer, in press.
- 2. Suman Nath, **Ryen W. White**, Fazle E. Faisal, Morris E. Sharp, Robert Gruen, and Lenin Ravindranath Sivalingam. (2025). From search engines to action engines. *IEEE Computer*, 58(6): 59-68.
- 3. Chirag Shah, **Ryen W. White**, Reid Andersen, Georg Buscher, Scott Counts, Sarkar Snigdha Sarathi Das, Ali Montazer, Sathish Manivannan, Jennifer Neville, Xiaochuan Ni, Nagu Rangan, Tara Safavi, Siddharth Suri, Mengting Wan, Leijie Wang, and Longqi Yang. (2025). Using large language models to generate, validate, and apply user intent taxonomies. *ACM Transactions on the Web (TWEB)*, in press.
- 4. Anssi Kanervisto, Dave Bignell, Linda Wen, Martin Grayson, Raluca Georgescu, Sergio Valcarcel Macua, Shan Zheng Tan, Tabish Rashid, Tim Pearce, Yuhan Cao, Abdelhak Lemkhenter, Chentian Jiang, Gavin Costello, Gunshi Gupta, Marko Tot, Shu Ishida, Tarun Gupta, Udit Arora, **Ryen W. White**, Sam Devlin, Cecily Morrison, and Katja Hofmann. (2025). World and human action models towards gameplay ideation. *Nature*, in press.

- 5. Kristina Gligoric, Arnaud Chiolero, Emre Kiciman, **Ryen W. White**, Eric Horvitz, and Robert West. (2024). Food choice mimicry on a large university campus. *Proceedings of the National Academy of Sciences* (*PNAS*) *Nexus*, 3(12): 517.
- 6. **Ryen W. White** and Chirag Shah. (2024). Panmodal information interaction. *Communications of the ACM*, 68(4): 36-38.
- 7. Kristina Gligorić, Robin Zbinden, Arnaud Chiolero, Emre Kiciman, **Ryen W. White**, Eric Horvitz, and Robert West. (2024). Measuring and Shaping the Nutritional Environment via Food Sales Logs: Case Studies of Campus-Wide Food Choice and a Call to Action. *Frontiers in Nutrition*, in press.
- 8. **Ryen W. White**. (2024). Advancing the search frontier with AI agents. *Communications of the ACM*, 67(9): 54-65.
- 9. Kaize Ding, Elnaz Nouri, Guoqing Zheng, Huan Liu, and **Ryen W. White**. (2023). Toward robust graph semi-supervised learning against extreme data scarcity. *IEEE Transactions on Neural Networks and Learning Systems*, in press.
- 10. Damiano Spina, Mark Sanderson, Daniel Angus, Gianluca Demartini, Dana McKay, Lauren L. Saling, and **Ryen W. White**. (2023). Human-Al cooperation to tackle misinformation and polarisation. *Communications of the ACM*, 66(7): 40-45.
- 11. Alex C. Williams, Shamsi Iqbal, Julia Kiseleva, and **Ryen W. White**. (2023). Managing tasks across the work-life boundary: Opportunities, challenges, and directions. *ACM Transactions on Computer-Human Interaction*, 30(3): 1-31.
- 12. Yufan Kang, Mohammad Saiedur Rahaman, Yongli Ren, Mark Sanderson, **Ryen W. White**, and Flora D. Salim. (2022). App usage on-the-move: Context- and commute-aware next app prediction. *Pervasive and Mobile Computing*, 87, 101704.
- 13. Jina Suh, Eric Horvitz, **Ryen W. White**, and Tim Althoff. (2022). Disparate impacts on online information access during the COVID-19 pandemic. *Nature Communications*, 13, 7094. [EDITORS' HIGHLIGHT]
- 14. Yonchanok Khaokaew, Indigo Holcombe-James, Mohammad Saiedur Rahaman, Jonathan Liono, Johanne R. Trippas, Damiano Spina, Peter Bailey, Nicholas Belkin, Paul N. Bennett, Yongli Ren, Mark Sanderson, Falk Scholer, **Ryen W. White**, and Flora D. Salim. (2022). Imagining future digital assistants at work: A study of task management needs. *International Journal of Human-Computer Studies*, 168, 102905.
- 15. Ryen W. White. (2022). Intelligent futures in task assistance. Communications of the ACM, 65(11), 35-39.
- 16. Kristina Gligorić, Arnaud Chiolero, Emre Kiciman, **Ryen W. White**, and Robert West. (2022). Population-scale dietary interests during the COVID-19 pandemic. *Nature Communications*, 13(1), 1073. [EDITORS' HIGHLIGHT]
- 17. Chuxu Zhang, Julia Kiseleva, Sujay Kumar Jauhar, and **Ryen W. White**. (2021). Grounded task prioritization with context-aware sequential ranking. *ACM Transactions on Information Systems*, 40(4):68.
- 18. **Ryen W. White**, Elnaz Nouri, James Woffinden-Luey, Mark Encarnacion, and Sujay Kumar Jauhar. (2020). Microtask detection. *ACM Transactions on Information Systems*, 39(2), 1-29.
- 19. Paul Thomas, Bodo Billerbeck, Nick Craswell, and **Ryen W. White**. (2019). Investigating searchers' mental models to inform search explanations. *ACM Transactions on Information Systems*, 38(1), 1-25.
- 20. **Ryen W. White** and Eric Horvitz. (2019). Population-scale hand tremor analysis via anonymized mouse cursor signals. *npj Digital Medicine*, 2(1), 1-7.
- 21. **Ryen W. White**, Adam Fourney, Allen Herring, Paul N. Bennett, Niru Chandrasekaran, Robert Sim, Elnaz Nouri, and Mark Encarnación. (2019). Multi-device digital assistance. *Communications of the ACM*, 62(10), 28-31.
- 22. Mehrdad Farajtabar, Emre Kiciman, Girish Nathan, and **Ryen W. White**. (2018). Modeling behaviors and lifestyle with online and social data for prediction and analysis of sleep and exercise quality. *International Journal of Data Science and Analytics*, 8(4), 367-383.
- 23. **Ryen W. White.** (2018). Opportunities and challenges in search interaction. *Communications of the ACM*, 61(12), 36-38.
- 24. Ryen W. White. (2018). Skill discovery in virtual assistants. Communications of the ACM, 61(11), 106-113.

- 25. **Ryen W. White**, P. Murali Doraiswamy, and Eric Horvitz. (2018). Detecting neurodegenerative disorders from web search signals. *npj Digital Medicine*, 1(1), 1-4.
- 26. Rave Harpaz, William DuMouchel, Martijn Schuemie, Olivier Bodenreider, Carol Friedman, Eric Horvitz, Anna Ripple, Alfred Sorbello, **Ryen W. White**, Rainer Winnenburg, and Nigam Shah. (2017). Toward multimodal signal detection of adverse drug reactions. *Journal of Biomedical Informatics*, 76: 41-49.
- 27. Tim Althoff, Eric Horvitz, and **Ryen W. White.** (2017). Psychomotor function measured via online activity predicts motor vehicle fatality risk. *npj Digital Medicine*, 1(1), 1-2.
- 28. Tim Althoff, **Ryen W. White**, and Eric Horvitz. (2016). Influence of Pokémon Go on physical activity: Study and implications. *Journal of Medical Internet Research*, 18(12), e315.
- 29. **Ryen W. White**, Fernando Diaz, and Qi Guo. (2016). Search result prefetching on desktop and mobile. *ACM Transactions on Information Systems*, 35(3), 1-34.
- 30. **Ryen W. White** and Eric Horvitz (2016). Evaluation of the feasibility of screening patients for early signs of lung carcinoma in web search logs. *JAMA Oncology*, 3(3), 398-401.
- 31. John Paparrizos, **Ryen W. White**, and Eric Horvitz (2016). Screening for pancreatic adenocarcinoma using signals from web search logs: Feasibility study and results. *Journal of Oncology Practice*, 12(8), 737-744.
- 32. Michael J. Paul, **Ryen W. White**, and Eric Horvitz. (2016). Search and breast cancer: On episodic shifts of attention over life histories of an illness. *ACM Transactions on the Web*, 10(2), 1-27.
- 33. **Ryen W. White**, Sheng Wang, Apurv Pant, Rave Harpaz, Pushpraj Shukla, Walter Sun, William DuMouchel, and Eric Horvitz. (2016). Early identification of adverse drug reactions from search log data. *Journal of Biomedical Informatics*, 59, 42-48. [EDITORS' CHOICE AWARD]
- 34. **Ryen W. White** and Eric Horvitz. (2015). Belief dynamics and biases in web search. *ACM Transactions on Information Systems*, 33(4), 1-46.
- 35. Roberto González-Ibáñez, Chirag Shah, and **Ryen W. White**. (2015). Capturing collaboration: A method to evaluate collaboration opportunities in information search using pseudo-collaboration. *Journal of the American Society for Information Science and Technology*, 66(9), 1897-1912.
- 36. Rave Harpaz, David Odgers, Greg Gaskin, William DuMouchel, Rainer Winnenburg, Olivier Bodenreider, Anna Ripple, Ana Szarfman, Alfred Sorbello, Eric Horvitz, **Ryen W. White**, and Nigam Shah. (2014). A time-indexed reference standard of adverse drug reactions. *Nature Scientific Data*, 1(1), 1-10.
- 37. **Ryen W. White** and Ahmed Hassan. (2014). Content bias in online health search. *ACM Transactions on the Web*, 8(4), 1-33.
- 38. **Ryen W. White**\*, Rave Harpaz\*, Nigam Shah, William DuMouchel, and Eric Horvitz. (2014). Toward enhanced pharmacovigilance using patient-generated data on the Internet. *Nature Clinical Pharmacology and Therapeutics* (Nature CPT) (\* = shared first authorship), 96(2), 239-246.
- 39. Elad Yom-Tov, **Ryen W. White**, and Eric Horvitz. (2014). Seeking insights about cycling mood disorders via anonymized search logs. *Journal of Medical Internet Research*, 16(2), e2664.
- 40. **Ryen W. White**. (2014). Belief dynamics in Web search. *Journal of the American Society for Information Science and Technology*, 65(11), 2165-2178.
- 41. Jaime Teevan, Kevyn Collins-Thompson, **Ryen W. White**, and Susan Dumais. (2014). Slow search. *Communications of the ACM*, 57(8), 36-38.
- 42. **Ryen W. White** and Eric Horvitz. (2014). From health search to health care: explorations of intention and utilization via query logs and user surveys. *Journal of the American Medical Informatics Association*, 21(1), 49-55.
- 43. **Ryen W. White** and Eric Horvitz. (2013). Captions and biases in diagnostic search. *ACM Transactions on the Web*, 7(4), 1-28.
- 44. **Ryen W. White**, Nicholas P. Tatonetti, Nigam H. Shah, Russ B. Altman, and Eric Horvitz. (2013). Web-scale pharmacovigilance: listening to signals from the crowd. *Journal of the American Medical Informatics Association*, 20(3), 404-408.
- 45. **Ryen W. White** and Eric Horvitz. (2013). From web search to healthcare utilization: privacy-sensitive studies from mobile data. *Journal of the American Medical Informatics Association*, 20(1), 61-68.

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