

Jacek Gwizdka

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Education

University of Toronto, Canada	Psychology	Post Doc 2004-05
University of Toronto, Canada	Industrial Engineering (Human-Computer Interaction)	Ph.D. 2004
University of Toronto, Canada	Industrial Engineering (Information Systems)	M.A.Sc. 1998
Technical University of Łódź, Poland	Electrical Engineering (Control Systems)	M.Eng. 1985

Dr. Gwizdka co-directs Information eXperience Lab at School of Information at the University of Texas Austin. He is one of the pioneers of Neuro-Information Science. He studies human information interaction and retrieval and applies cognitive psychology and neuro-physiological methods to understand information searchers and improve search experience. He is particularly interested in creating models that describe and predict cognitive and affective phenomena in human information interaction. Recent projects investigate search as a learning process and employ eye-tracking in assessment of reading, online health information evaluation, and in inferring information relevance.

Professional Appointments (selected)

2019 – current:	Associate Professor, School of Information (iSchool), University of Texas at Austin
2015 – 2019:	Assistant Professor, School of Information (iSchool), University of Texas at Austin
2013 – 2014:	Lecturer, School of Information (iSchool), University of Texas at Austin
2005 – 2012:	Assistant Professor, School of Comm. & Info (iSchool), Rutgers University, New Brunswick, NJ
2004 – 2005:	Adjunct Professor at the Faculty of Information Studies (iSchool), University of Toronto, Canada
1997 – 2001:	Summer research student intern at Xerox PARC, FXPAL, HP Labs, Palo Alto, CA
1999 – 1999:	Knowledge Engineer and Software Designer, Personification Inc., Toronto, Canada

Selected publications (journal articles and conference papers; all peer-reviewed)

Citation metrics based on Google-Scholar (as of 2020.04.30): [citations: 3406](#); [i10-index: 63](#); [h-index: 31](#)

1. Jia, C., & Gwizdka, J. (2021). An eye-tracking study of differences in reading between automated and human-written news. In F. D. Davis, R. Riedl, J. vom Brocke, P.-M. Léger, A. Randolph, & T. Fischer (Eds.), *NeuroIS'2020*.
2. Bhattacharya, N., Rakshit, S., & Gwizdka, J. (2020). Towards real-time webpage relevance prediction using convex hull based eye-tracking features. *Proceedings of the 2020 Symposium on Eye Tracking Research and Applications (ETRA '20 Adjunct)*. <https://doi.org/10.1145/3379157.3391302>
3. Bhattacharya, N., Rakshit, S. & Gwizdka, J. (2020). Relevance Prediction from Eye-movements Using Semi-interpretable Convolutional Neural Networks. To appear in *Proceedings of the ACM SIGIR CHIIR'2020*. (pp. 10). Vancouver, BC, Canada.
4. Gwizdka, J., Zhang, Y., & Dillon, A. (2019). Using Eye Tracking Method to Study Consumer Online Health Information Search Behaviour. *Aslib Journal of Information Management*. pp. 16. doi:10.1108/AJIM-02-2019-0050
5. Sun, Y., Zhang, Y., Gwizdka, J., & Trace, C. B. (2019). Consumer Evaluation of the Quality of Online Health Information: Systematic Literature Review of Relevant Criteria and Indicators. *Journal of Medical Internet Research*, 21(5), e12522. <https://doi.org/10.2196/12522>
6. Ebeid, I.A., Bhattacharya, N., Gwizdka, J., Sarkar, A. (2019). Analyzing Gaze Transition Behavior Using Bayesian Mixed Effects Markov Models. *Proceedings of the 11th ACM Symposium on Eye Tracking Research & Applications ETRA'2019*, 5:1–5:5. New York, NY, USA: ACM. <http://doi.acm.org/10.1145/3314111.3319839> **Best Short Paper**.
7. Bhattacharya, N., & Gwizdka, J. (2019). Measuring Learning During Search: Differences in Interactions, Eye-Gaze, and Semantic Similarity to Expert Knowledge. *Proceedings of the 2019 Conference on Human Information Interaction and Retrieval, CHIIR'2019*. 63–71. <https://doi.org/10.1145/3295750.3298926>
8. Gwizdka, J. (2019). Exploring Eye-Tracking Data for Detection of Mind-wandering on Web Tasks. In D. F. Davis, R. Riedl, J. vom Brocke, P.-M. Léger, & B. A. Randolph (Eds.), *Information Systems and Neuroscience Retreat on NeuroIS'2018*. vol 29. (pp. 47-55). Springer International Publishing. doi: 10.1007/978-3-030-01087-4_6
9. Bhattacharya, N., & Gwizdka, J. (2018). Relating Eye-tracking Measures with Changes in Knowledge on Search Tasks. *Proceedings of the 2018 ACM Symposium on Eye Tracking Research & Applications ETRA'2018* (pp. 62:1–62:5). New York, NY, USA: ACM. doi:10.1145/3204493.3204579.

10. Bilal, D., & Gwizdka, J. (2018). Children's query types and reformulations in Google search. *Information Processing & Management*, 54(6), 1022–1041. <https://doi.org/10.1016/j.ipm.2018.06.008>
11. Gwizdka, J. (2018). Inferring Web Page Relevance Using Pupillometry and Single Channel EEG. In D. F. Davis, R. Riedl, J. vom Brocke, P.-M. Léger, & B. A. Randolph (Eds.), *Information Systems and Neuroscience: Gmunden Retreat on NeuroIS'2017* (pp. 175–183). Springer International Publishing. doi:10.1007/978-3-319-67431-5_2
12. Gwizdka, J., Hosseini, R., Cole, M., & Wang, S. (2017). Temporal dynamics of eye-tracking and EEG during reading and relevance decisions. *Journal of the Association for Information Science and Technology*, 68(10), 2299–2312.
13. Ye, Z., Gwizdka, J., Lopes, C. T., & Zhang, Y. (2017). Towards understanding consumers' quality evaluation of online health information: A case study. *Proceedings of the Association for Information Science and Technology* (Vol. 54, pp. 838–839).
14. Gwizdka, J. (2017). Differences in Reading Between Word Search and Information Relevance Decisions: Evidence from Eye-Tracking. In D. F. Davis, R. Riedl, J. vom Brocke, P.-M. Léger, & B. A. Randolph (Eds.), *Information Systems and Neuroscience: Gmunden Retreat on NeuroIS'2016* (pp. 141–147). Springer.
15. Gwizdka, J. (2017). I Can and So I Search More: Effects of Memory Span on Search Behavior. In *Proceedings of Conference on Conference Human Information Interaction and Retrieval CHIIR'2017*, (pp. 341–344). ACM.
16. Smith, C. L., Gwizdka, J., & Feild, H. (2017). The use of query auto-completion over the course of search sessions with multifaceted information needs. *Information Processing & Management*, 53(5), 1139–1155.
17. Wang, S., Gwizdka, J., Chaovalitwongse, W.A. (2016). Using Wireless EEG Signals to Assess Memory Workload In the n-Back Task. *IEEE Transactions On Human-Machine Systems*. 46(3), 424–435
18. Mostafa, J. & Gwizdka, J. (2016). Deepening the role of the User: Neuro-Physiological Evidence as a basis for Studying and Improving Search. *Proceedings of 1st ACM SIGIR Conference on Human Information Interaction and Retrieval CHIIR'2016*. (pp. 63–70). ACM. doi:10.1145/2854946.2854979
19. Zhang, Y. & Gwizdka, J. (2016). Rethinking the Cost of Information Search Behavior. *Proceedings of the 39th international ACM SIGIR conference on Research and development in Information (SIGIR 2016)*. (pp. 969–972). New York, NY, USA: ACM. doi:10.1145/2911451.2914742
20. Gwizdka, J., Zhang, Y. (2015). Differences in eye-tracking measures between visits and revisits to relevant and irrelevant Web pages. *Proceedings of the 38th international ACM SIGIR conference on Research and development in Information (SIGIR'2015)*. (pp. 811–814). New York, USA: ACM. doi:10.1145/2766462.2767795
21. Gwizdka, J. (2014). Characterizing Relevance with Eye-tracking Measures. *Proceedings of Information Interaction in Context Symposium IiX'2014*. (pp. 58–67). ACM
22. Gwizdka, J. (2014). News Stories Relevance Effects on Eye-Movement. *Proceedings of the Symposium on Eye Tracking Research and Applications (ETRA'2014)*. (pp. 283–286). New York, NY, USA: ACM. doi:10.1145/2578153.2578198
23. Zhang, Y., Zhang, J., Lease, M., & Gwizdka, J. (2014). Multidimensional Relevance Modeling via Psychometrics and Crowdsourcing. *Proceedings of the 37th International ACM SIGIR Conference on Research & Development in Information Retrieval SIGIR 2014* (pp. 435–444). New York, NY, USA: ACM. doi:10.1145/2600428.2609577
24. Cole, M. J., Gwizdka, J., Liu, C., Belkin, N. J., & Zhang, X. (2013). Inferring user knowledge level from eye movement patterns. *Information Processing & Management*, 49(5), 1075–1091.
25. Cole, M., Gwizdka, J., Liu, C., Bierig, R., Belkin, N., Zhang, X. (2011). Task and User Effects on Reading Patterns in Information Search. *Interacting with Computers*. 23(4), 346–362. doi:10.1016/j.intcom.2011.04.007
26. Liu, J., Gwizdka, J., Liu, C., & Belkin, N.J. (2010). Predicting task difficulty for different task types. *Proceedings of the 73rd Annual Meeting of the American Society for Information Science & Technology (ASIS&T 2010)*. (pp. 16:1–16:10). doi:10.1002/meet.14504701173
27. Gwizdka, J. (2010). Distribution of cognitive load in web search. *Journal of the American Society for Information Science and Technology*, 61(11), 2167–2187.
28. Gwizdka, J. & Lopatovska, I. (2009). The role of subjective factors in the information search process. *Journal of the American Society for Information Science and Technology*, 60(12), 2452–2464. doi:10.1002/asi.21183
29. Gwizdka, J. & Spence, I. (2007). Implicit measures of lostness and success in web navigation. *Interacting with Computers*, 19(3), 357–369. doi:10.1016/j.intcom.2007.01.001 (2017 JCR impact factor: 0.809)
30. Gwizdka, J. & Chignell, M.H. (2004). Individual differences and task-based user interface evaluation: A case study of pending tasks in email. *Interacting with Computers*, 16(4), 769–797. doi:10.1016/j.intcom.2004.04.
31. Kuchinsky, A., Pering C., Freeze, D., Creech, M.L., Serra, B., & Gwizdka, J. (1999). FotoFile: A consumer multimedia organization and retrieval system. *Proceedings of the ACM SIGCHI Conference Summary on Human Factors in Computing Systems CHI '99* (pp. 496–503). New York: ACM Press. doi:10.1145/302979.303143

Teaching Experience

Taught 15 different courses 53 times, in that eight HCI courses 37 times and 6 programming courses 13 times.

Student Advising

Chair of two doctoral committees in progress (iSchool, UT Austin)

Doctoral committee member: one in progress, two successfully defended (iSchool, UT Austin)

Doctoral committee member: six successfully defended (Rutgers U)

External doctoral committee member: four successfully defended (UNC, USC, Rutgers)

Master's student advising: approximately 20 students each semester (iSchool, UT Austin)

Undergraduate student advising: supervised nine undergraduate research projects or internships (UT Austin and Rutgers U)

Grants and Funding

Total: ~\$2.2M. Of that from external sources of ~\$2M.

Selected External Funding

2017-2019 Eye-Tracking for Adaptive User Interfaces. (\$150,000). PI. Lockheed Martin Corporation.

2016-2017 Relevance Mining & Detection. Science & Technology Foundation (Portugal); Digital Media Program, UT Austin.

2014 Child-friendly search engine results pages. Co-PI with Dania Bilal (PI). Google Faculty Award

2008-2010 Personalization of the digital library experience (\$964,887). Co-PI, with Nick Belkin (PI) and Xiangmin Zhang (Co-PI). Institute of Muse(iSchool, UT Austin)um and Library Services (IMLS).

Selected Awards and Honors

2019 Best short paper at ACM ETRA'2019 conference with iSchool doctoral students (first author I.A.Ebeid)

2018 Diploma in recognition of Academic Service to the NeuroIS Community awarded by NeuroIS Conference

2015 Distinguished Fellow of the Kosciuszko Foundation Collegium of Eminent Scientists

2014 Google Faculty Research Award (with Prof. Dania Bilal)

2013 Dr. H. Zemlicka Award for the "most visionary paper" presented at NeuroIS'2013 in Gmunden, Austria

2011 "Internet Research" (Emerald) Best Paper in the Interactive Information & Design Track at ASIST 2011

2011 SIGUSE 2011 Best Poster in Information Behavior

2011 IMLS CAREER Development Award. (8.3% success rate; 2 awards given in 2011)

Professional Service and Synergistic Activities (selected)

- Guest-Lead-Editor, Special Issue "Neuro-Information Science", *Journal of the Association for Information Science and Technology*, September, 2019
- Invited expert reviewer for special issue of *Information Processing & Management* (Elsevier) on "Information Need"
- Editorial Advisory Board, *Information & Learning Science* journal (Emerald), since March 2018
- Co-editor, Special Issue "Search as learning", October 2017, *Information Retrieval Journal* (Springer)
- Co-editor, Special Issue "Recent advances on searching as learning", February 2016, *Journal of Information Science*
- Invited panelist, "Information literacy: Bridging the gap between theory and practice", at ASIS&T 2016
- Invited panelist, International Workshop on System and User Centered Evaluation Approaches in IIR (SAUCE'2016)
- Co-organizer, Two workshops on NeuroIR, at ACM SIGIR'2015 & ACM CHIIR'2017 conferences
- Co-organizer, Two workshops on Searching as Learning, IIX'2014 & ACM SIGIR'2016 conferences
- Editorial boards: *Interacting with Computers* (Associate editor, since 2009); *Information Processing & Management*.

Service to the School and University (selected)

2019.09-present UT Austin iSchool Extended Budget Council, Education Committee & Master's Studies Committee

2018.09-2019.08 UT Austin iSchool Doctoral Studies Committee & Assistant Professor Search Committee

2017.09-2018.05 UT Austin iSchool Admissions Committee

2016.12-present Committee for Bridging Disciplines Program (BDP) certificate in Integrated Design (UT Austin)

2016.09-2017.12 UT Austin iSchool Curriculum Committee

2016.01-present Advisory board for Center for Integrated Design (UT Austin)

2015-2016 Developed UT Austin iSchool's course offerings for undergraduate minor in HCI/UX-design