

Krzysztof Z. Gajos

Gordon McKay Professor of Computer Science
Harvard Paulson School of Engineering and Applied Sciences
Maxwell Dworkin Laboratory, Rm 251
33 Oxford Street, Cambridge, MA 02138, USA
Phone: +1 617-496-1876
kgajos@eecs.harvard.edu
<http://www.eecs.harvard.edu/~kgajos/>

CURRENT EMPLOYMENT

Harvard University (Cambridge, MA)

Gordon McKay Professor of Computer Science (2016-present)

Associate Professor of Computer Science (2013-2016)

Assistant Professor of Computer Science (2009-2013)

EDUCATION AND PROFESSIONAL PREPARATION

Microsoft Research (Redmond, WA) (2008-2009)

Postdoctoral Researcher, Adaptive Systems and Interaction Group

University of Washington (Seattle, WA) (2002-2008)

PhD in Computer Science (2008)

Advisors: Daniel S. Weld (Computer Science) and Jacob O. Wobbrock
(Information School)

Dissertation: *Automatically Generating Personalized User Interfaces*
(**William Chan Memorial Dissertation Award**)

M.Sc. in Computer Science (2004)

Advisor: Daniel S. Weld

Massachusetts Institute of Technology (Cambridge, MA) (1995-2000)

M.Eng. in Computer Science (2000)

Advisors: Patrick H. Winston and Howard E. Shrobe

Dissertation: *A Knowledge-Based Resource Management System For The
Intelligent Room*

B.Sc. in Computer Science (1999)

MAJOR HONORS AND AWARDS

Best paper award at ACM IUI	(2020)
Most Impactful Paper Award at ACM IUI	(2019)
Best paper award at ACM COMPASS	(2018)
Best paper award at ACM CHI	(2013)
Alfred P. Sloan Research Fellowship	(2013)

William Chan Memorial Dissertation Award	(2008)
Best paper award at ACM CHI	(2008)
Microsoft Graduate Research Fellowship	(2005-2007)

OTHER PROFESSIONAL RECOGNITION

Invited participant at the U.S. Kavli Frontiers of Science symposium organized by the National Academy of Sciences	(2015)
Invited participant at the Frontiers of Engineering Education Symposium organized by the National Academy of Engineering	(2014)

BOOK CHAPTERS

- B.1 Jameson, A., and Gajos, K. Z. 2012. Systems that Adapt to Their Users. In *The Human-Computer Interaction Handbook: Fundamentals, Evolving Technologies, and Emerging Applications*. Jacko, J. ed. 3rd Edition. Taylor & Francis.

REFEREED JOURNAL ARTICLES

- J.1 Bernd Huber and Krzysztof Z. Gajos. Conducting online virtual environment experiments with uncompensated, unsupervised samples. *PLOS ONE*, 15(1):1–17, 01 2020.
- J.2 Krzysztof Z. Gajos, Katharina Reinecke, Mary Donovan, Christopher D. Stephen, Albert Y. Hung, Jeremy D. Schmahmann, and Anoopum S. Gupta. Computer mouse use captures ataxia and parkinsonism, enabling accurate measurement and detection. *Movement Disorders*, 35:354–358, February 2020.
- J.3 Maia Jacobs, Galina Gheihman, Krzysztof Z. Gajos, and Anoopum S. Gupta. "i think we know more than our doctors": How primary caregivers manage care teams with limited disease-related expertise. *Proc. ACM Hum.-Comput. Interact.*, 3(CSCW):159:1–159:22, November 2019.
- J.4 Bernd Huber, Stuart Shieber, and Krzysztof Z. Gajos. Automatically analyzing brainstorming language behavior with meeter. *Proc. ACM Hum.-Comput. Interact.*, 3(CSCW):30:1–30:17, November 2019. (**Honorable Mention**)
- J.5 Ofra Amir, Barbara J. Grosz, Krzysztof Z. Gajos, and Limor Gultchin. Personalized change awareness: Reducing information overload in loosely-coupled teamwork. *Artificial Intelligence*, 275:204-233, 2019.
- J.6 M. M. Moyne, M. Herman, K. Z. Gajos, C. J. Walsh, and D. P. Holland. The development and evaluation of deft, a web-based tool for engineering design education. *IEEE Transactions on Learning Technologies*, 11(4):545-550, Oct 2018.
- J.7 Nam Wook Kim, Zoya Bylinskii, Michelle A. Borkin, Krzysztof Z. Gajos, Aude Oliva, Fredo Durand, Hanspeter Pfister. BubbleView: an alternative to eye-tracking for crowdsourcing image importance. *ACM Transactions on Computer-Human Interaction (ToCHI)* 24(5), Article 36 (November 2017), 40 pages.
- J.8 Katherine E. Boronow, Herbert P. Susmann, Krzysztof Z. Gajos, Ruthann A. Rudel, Kenneth C. Arnold, Phil Brown, Rachel Morello-Frosch, Laurie Havas, and Julia Green Brody. DERBI: A Digital Method to Help Researchers Offer "Right-to-Know" Personal Exposure Results. *Environmental Health Perspectives*, 125(2), February 2017.

- J.9 Michelle A Borkin, Chelsea S Yeh, Madelaine Boyd, Peter Macko, K.Z. Gajos, M Seltzer, and H Pfister. Evaluation of filesystem provenance visualization tools. *IEEE transactions on visualization and computer graphics*, 19(12):2476-2485, 2013.
- J.10 Borkin, M., Gajos, K. Z., Peters, A., Mitsouras, D., Melchionna, S., Rybicki, F. J., Feldman, C. L., and Pfister, H. 2011. Evaluation of Artery Visualizations for Heart Disease Diagnosis. In *IEEE Transactions on Visualization and Computer Graphics (Proceedings of Information Visualization 2011)*, vol. 17, no. 12, Dec. 2011.
- J.11 Wobbrock, J. O., Kane, S. K., Gajos, K. Z., Harada, S., Froelich, J. 2011. Ability-Based Design: Concept, Principles and Examples. In *ACM Transactions on Accessible Computing*.
- J.12 Gajos, K. Z., Weld, D.S., and Wobbrock, J. O. 2010. Automatically generating personalized user interfaces with Supple. In *Artificial Intelligence*, 174 (12-13): 910-950.
- J.13 Wobbrock, J. O. and Gajos, K. Z. 2008. Goal Crossing with Mice and Trackballs for People with Motor Impairments: Performance, Submovements, and Design Directions. In *ACM Transactions on Accessible Computing*, 1(1):1-37.

REFEREED CONFERENCE ARTICLES

- C.1 Jingmei Hu, Jiwon Joung, Maia Jacobs, Margo I. Seltzer, and Krzysztof Z. Gajos. Improving data scientist efficiency with provenance. In *Proceedings of ICSE'20: International Conference on Software Engineering*. ACM, 2020. To appear.
- C.2 Zana Bućinca, Phoebe Lin, Krzysztof Z. Gajos, and Elena L. Glassman. Proxy tasks and subjective measures can be misleading in evaluating explainable ai systems. In *Proceedings of the 25th International Conference on Intelligent User Interfaces*. ACM, 2020. **(Best Paper Award)**
- C.3 Kenneth C. Arnold, Krysta Chauncey, and Krzysztof Z. Gajos. Predictive text encourages predictable writing. In *Proceedings of the 25th International Conference on Intelligent User Interfaces*. ACM, 2020.
- C.4 Jung Min Han, Ali Malkawi, and Krzysztof Z. Gajos. Eabbit 1.0: New environmental analysis software for solar energy representation. In *Proceedings of Building Simulation*, 2019.
- C.5 Bernd Huber, Richard F. Davis, III, Allison Cotter, Emily Junkin, Mindy Yard, Stuart Shieber, Elizabeth Brestan-Knight, and Krzysztof Z. Gajos. SpecialTime: Automatically detecting dialogue acts from speech to support parent-child interaction therapy. In *Proceedings of the 13th EAI International Conference on Pervasive Computing Technologies for Healthcare*, PervasiveHealth'19, pages 139-148, New York, NY, USA, 2019. ACM.
- C.6 Nam Wook Kim, Hyejin Im, Nathalie Henry Riche, Alicia Wang, Krzysztof Gajos, and Hanspeter Pfister. Dataselfie: Empowering people to design personalized visuals to represent their data. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*, CHI '19, pages 79:1-79:12, New York, NY, USA, 2019. ACM.
- C.7 Qisheng Li, Krzysztof Z. Gajos, and Katharina Reinecke. Volunteer-based online studies with older adults and people with disabilities. In *Proceedings of the 20th*

- International ACM SIGACCESS Conference on Computers and Accessibility, ASSETS '18*, pages 229-241, New York, NY, USA, 2018. ACM.
- C.8 Lahiru Jayatilaka, David M. Sengeh, Charles Herrmann, Luca Bertuccelli, Dimitrios Antos, Barbara J. Grosz, and Krzysztof Z. Gajos. Petals: Improving learning of expert skill in humanitarian demining. In *Proceedings of the 1st ACM SIGCAS Conference on Computing and Sustainable Societies, COMPASS '18*, pages 33:1-33:11, New York, NY, USA, 2018. ACM. **(Best Paper Award)**
- C.9 Kenneth Arnold, Krysta Chauncey, and Krzysztof Gajos. Sentiment bias in predictive text recommendations results in biased writing. In *Proceedings of Graphics Interface 2018, GI 2018*, pages 33 - 40. Canadian Human-Computer Communications Society / Société canadienne du dialogue humain-machine, 2018.
- C.10 Joel Chan, Pao Siangliulue, Denisa Qori McDonald, Ruixue Liu, Reza Moradinezhad, Safa Aman, Erin T. Solovey, Krzysztof Z. Gajos, and Steven P. Dow. Semantically far inspirations considered harmful? Accounting for cognitive states in collaborative ideation. In *Proceedings of the 2017 ACM SIGCHI Conference on Creativity and Cognition, C&C '17*, pages 93-105, New York, NY, USA, 2017. ACM.
- C.11 Marissa Burgermaster, Krzysztof Z. Gajos, Patricia Davidson, and Lena Mamykina. The role of explanations in casual observational learning about nutrition. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems, CHI '17*, pages 4097-4145, New York, NY, USA, 2017. ACM.
- C.12 Bernd Huber, Katharina Reinecke, and Krzysztof Z. Gajos. The effect of performance feedback on social media sharing at volunteer-based online experiment platforms. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems, CHI '17*, pages 1882-1886, New York, NY, USA, 2017. ACM.
- C.13 Krzysztof Z. Gajos and Krysta Chauncey. The influence of personality traits and cognitive load on the use of adaptive user interfaces. In *Proceedings of the 22Nd International Conference on Intelligent User Interfaces, IUI '17*, pages 301-306, New York, NY, USA, 2017. ACM.
- C.14 Edith Law, Krzysztof Z. Gajos, Andrea Wiggins, Mary L. Gray, and Alex Williams. Crowdsourcing as a tool for research: Implications of uncertainty. In *Proceedings of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing, CSCW '17*, pages 1544-1561, New York, NY, USA, 2017. ACM.
- C.15 Serena Booth, James Tompkin, Hanspeter Pfister, Jim Waldo, Krzysztof Gajos, and Radhika Nagpal. Piggybacking robots: Human-robot overtrust in university dormitory security. In *Proceedings of the 2017 ACM/IEEE International Conference on Human-Robot Interaction, HRI '17*, pages 426-434, New York, NY, USA, 2017. ACM.
- C.16 Pao Siangliulue, Joel Chan, Steven P. Dow, and Krzysztof Z. Gajos. IdeaHound: Improving large-scale collaborative ideation with crowd-powered real-time semantic modeling. In *Proceedings of the 29th Annual Symposium on User Interface Software and Technology, UIST '16*, pages 609-624, New York, NY, USA, 2016. ACM.
- C.17 Kenneth C. Arnold, Krzysztof Z. Gajos, and Adam T. Kalai. On suggesting phrases vs. predicting words for mobile text composition. In *Proceedings of the 29th Annual*

- Symposium on User Interface Software and Technology*, UIST '16, pages 603-608, New York, NY, USA, 2016. ACM.
- C.18 Sunyoung Kim, Krzysztof Z. Gajos, Michael Muller, and Barbara J. Grosz. Acceptance of mobile technology by older adults: A preliminary study. In *Proceedings of the 18th International Conference on Human-Computer Interaction with Mobile Devices and Services*, MobileHCI '16, pages 147-157, New York, NY, USA, 2016. ACM.
- C.19 Ofra Amir, Barbara Grosz, and Krzysztof Z. Gajos. Mutual influence potential networks: Enabling information sharing in loosely-coupled extended-duration teamwork. In *Proceedings of IJCAI'16*, 2016.
- C.20 Lena Mamykina, Thomas N. Smyth, Jill P. Dimond, and Krzysztof Z. Gajos. Learning from the crowd: Observational learning in crowdsourcing communities. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*, CHI '16, pages 2635-2644, New York, NY, USA, 2016. ACM.
- C.21 Sharon Zhou, Ivy J. Livingston, Mark Schiefsky, Stuart M. Shieber, and Krzysztof Z. Gajos. Ingenium: Engaging novice students with Latin grammar. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*, CHI '16, pages 944-956, New York, NY, USA, 2016. ACM.
- C.22 Edith Law, Ming Yin, Joslin Goh, Kevin Chen, Michael A. Terry, and Krzysztof Z. Gajos. Curiosity killed the cat, but makes crowdwork better. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*, CHI '16, pages 4098-4110, New York, NY, USA, 2016. ACM. (**Honorable Mention**)
- C.23 Cheng-Zhi Anna Huang, David Duvenaud, and Krzysztof Z. Gajos. Chordripple: Recommending chords to help novice composers go beyond the ordinary. In *Proceedings of the 21st International Conference on Intelligent User Interfaces*, IUI '16, pages 241-250, New York, NY, USA, 2016. ACM.
- C.24 Joseph Jay Williams, Juho Kim, Anna Rafferty, Samuel Maldonado, Krzysztof Z. Gajos, Walter S. Lasecki, and Neil Heffernan. AXIS: generating explanations at scale with learnersourcing and machine learning. In *Proceedings of the Third ACM Conference on Learning @ Scale*, L@S '16. ACM, 2016. To appear. (**Honorable Mention**)
- C.25 Pao Siangliulue, Joel Chan, Krzysztof Z. Gajos, and Steven P. Dow. Providing timely examples improves the quantity and quality of generated ideas. In *Proceedings of the 2015 ACM SIGCHI Conference on Creativity and Cognition*, C&C '15, pages 83-92, New York, NY, USA, 2015. ACM.
- C.26 Ofra Amir, Barbara J. Grosz, Krzysztof Z. Gajos, Sonja M. Swenson, and Lee M. Sanders. From care plans to care coordination: Opportunities for computer support of teamwork in complex healthcare. In *Proceedings of CHI'15*, 2015. (**Honorable Mention**)
- C.27 Sarah Weir, Juho Kim, Krzysztof Z. Gajos, and Robert C. Miller. Learnersourcing subgoal labels for how-to videos. In *Proceedings of CSCW'15*, 2015.
- C.28 Katharina Reinecke and Krzysztof Z. Gajos. LabintheWild: Conducting large-scale online experiments with uncompensated samples. In *Proceedings of CSCW'15*, 2015. (**Honorable Mention**)

- C.29 Pao Siangliulue, Kenneth C. Arnold, Krzysztof Z. Gajos, and Steven P. Dow. Toward collaborative ideation at scale: Leveraging ideas from others to generate more creative and diverse ideas. In *Proceedings of CSCW'15*, 2015.
- C.30 Juho Kim, Philip J. Guo, Carrie J. Cai, Shang-Wen (Daniel) Li, Krzysztof Z. Gajos, and Robert C. Miller. Data-driven interaction techniques for improving navigation of educational videos. In *Proceedings of UIST'14*, 2014.
- C.31 Juho Kim, Amy X. Zhang, Jihee Kim, Robert C. Miller, and Krzysztof Z. Gajos. Content-aware kinetic scrolling for supporting web page navigation. In *Proceedings of UIST'14*, 2014.
- C.32 Katharina Reinecke and Krzysztof Z. Gajos. Quantifying Visual Preferences Around the World. In *Proceedings of CHI 2014*, 2014. 10 pages.
- C.33 Juho Kim, Phu Nguyen, Sarah Weir, Philip J Guo, Robert C Miller, and Krzysztof Z. Gajos. Crowdsourcing Step-by-Step Information Extraction to Enhance Existing How-to Videos. In *Proceedings of CHI 2014*, 2014. 10 pages. (**Honorable Mention**)
- C.34 Juho Kim, Philip J. Guo, Daniel T. Seaton, Piotr Mitros, Krzysztof Z. Gajos, and Robert C. Miller. Understanding In-Video Dropouts and Interaction Peaks in Online Lecture Videos. In *Proceeding of Learning at Scale 2014*, 2014. 10 pages.
- C.35 Louis Li and Krzysztof Z. Gajos. Adaptive Click-and-Cross: Adapting to Both Abilities and Task Improves Performance of Users With Impaired Dexterity. In *Proceedings of IUI 2014*, 2014. 6 pages.
- C.36 Cheng-Zhi Anna Huang, David Duvenaud, Kenneth C. Arnold, Brenton Partridge, Josiah W. Oberholtzer, and Krzysztof Z. Gajos. Active Learning of Intuitive Control Knobs for Synthesizers Using Gaussian Processes. In *Proceedings of IUI 2014*, 2014. 10 pages.
- C.37 Reinecke, K., Yeh, T., Miratrix, L., Rahmatri, M., Zhao, Y., Liu, J., Gajos, K.Z. 2013. Predicting Users' First Impressions of Website Aesthetics With a Quantification of Perceived Visual Complexity and Colorfulness. In *Proceedings of CHI 2013*. 10 pages. (**Honorable Mention**)
- C.38 Komarov, S., Reinecke, K., Gajos, K.Z. 2013. Crowdsourcing Performance Evaluations of User Interfaces. In *Proceedings of CHI 2013*. 10 pages.
- C.39 Flatla, D., Reinecke, K., Gutwin, C., Gajos, K. Z. 2013. SPRWeb: Preserving Subjective Responses to Website Colour Schemes through Automatic Recolouring. In *Proceedings of CHI 2013*. 10 pages. (**Best Paper Award**)
- C.40 Reinecke, K., Nguyen, M.K., Bernstein, A., Naf, M., Gajos, K. Z. 2013. Doodle Around the World: Online Scheduling Behavior Reflects Cultural Differences in Time Perception and Group Decision-Making. In *Proceedings of CSCW'13*. 11 pages.
- C.41 Gajos, K. Z., Reinecke, K. and Herrmann, C. 2012. Accurate Measurements of Pointing Performance from In Situ Observations. In *Proceedings of CHI'12*. ACM Press, New York, NY, USA. 10 pages.
- C.42 Zhang, H., Law, E., Gajos, K.Z., Horvitz, E., Miller, R. C., and Parkes, D. Human Computation Tasks with Global Constraints: A Case Study. In *Proceedings of CHI'12*. ACM Press, New York, NY, USA. 10 pages. (**Honorable Mention**)
- C.43 Noronha, J., Hysen, E., Zhang, H., Gajos, K. Z. 2011. PlateMate: Crowdsourcing Nutrition Analysis from Food Photographs. In *Proceedings of the 24th Annual ACM*

Symposium on User interface Software and Technology. UIST'11. ACM, New York, NY. 11 pages.

- C.44 Jayatilaka, L. G., Bertucelli, L. F., Staszewski, J., Gajos, K. Z. 2011. PETALS: Understanding the Implications of Visual Decision Support in Humanitarian Landmine Clearance. In *Proceedings of CHI'11*. ACM Press, New York, NY, USA. 10 pages.
- C.45 Gajos, K. Z., Weld, D.S., and Wobbrock, J. O. 2008. Decision-Theoretic User Interface Generation. In *Proceedings of AAAI'08*. AAAI Press.
- C.46 Gajos, K. Z., Wobbrock, J. O., and Weld, D. S. 2008. Improving the performance of motor-impaired users with automatically generated, ability-based interfaces. In *Proceedings of CHI'08*. ACM Press, New York, NY, USA. **(Best Paper Award)**
- C.47 Gajos, K.Z., Everitt, K., Tan, D.S., Czerwinski, M., and Weld D.S. 2008. Predictability and accuracy in adaptive user interfaces. In *Proceedings of CHI'08*. ACM Press, New York, NY, USA. (CHI Note)
- C.48 Wobbrock, J. O. and Gajos, K. Z. 2007. A comparison of area pointing and goal crossing for people with and without motor impairments. In *Proceedings of the 9th international ACM SIGACCESS Conference on Computers and Accessibility* (Tempe, Arizona, USA, October 15 - 17, 2007). ASSEST'07. ACM, New York, NY, 3-10.
- C.49 Gajos, K. Z., Wobbrock, J. O., and Weld, D. S. 2007. Automatically generating user interfaces adapted to users' motor and vision capabilities. In *Proceedings of the 20th Annual ACM Symposium on User interface Software and Technology* (Newport, Rhode Island, USA, October 07 - 10, 2007). UIST'07. ACM, New York, NY, 231-240.
- C.50 Gajos, K. Z., Czerwinski, M., Tan, D. S., and Weld, D. S. 2006. Exploring the design space for adaptive graphical user interfaces. In *Proceedings of the Working Conference on Advanced Visual interfaces* (Venezia, Italy, May 23 - 26, 2006). AVI'06. ACM, New York, NY, 201-208.
- C.51 Gajos, K. and Weld, D. S. 2005. Preference elicitation for interface optimization. In *Proceedings of the 18th Annual ACM Symposium on User interface Software and Technology* (Seattle, WA, USA, October 23 - 26, 2005). UIST'05. ACM, New York, NY, 173-182.
- C.52 Gajos, K., Christianson, D., Hoffmann, R., Shaked, T., Henning, K., Long, J. J., and Weld, D. S. 2005. Fast and robust interface generation for ubiquitous applications. In *UbiComp 2005: Ubiquitous Computing*, volume 3660 of Lecture Notes in Computer Science. Springer, 37-55.
- C.53 Patterson, D. J., Liao, L., Gajos, K., Collier, M., Livic, N., Olson, K., Wang, S., Fox, D., and Kautz, H. 2004. Opportunity knocks: A system to provide cognitive assistance with transportation services. In *UbiComp 2004: Ubiquitous Computing*, volume 3205 of Lecture Notes in Computer Science, Springer, 433-450.
- C.54 Gajos, K. and Weld, D. S. 2004. SUPPLE: automatically generating user interfaces. In *Proceedings of the 9th international Conference on intelligent User interfaces* (Funchal, Madeira, Portugal, January 13 - 16, 2004). IUI'04. ACM, New York, NY, 93-100. **(Most Impactful Paper Award at ACM IUI 2019)**

C.55 Gajos, K., Fox, H., and Shrobe, H. 2002. End user empowerment in human centered pervasive computing. In *Proceedings of the First International Conference on Pervasive Computing, Pervasive 2002 - companion volume*, pages 134-140.

REFEREED PAPERS ACCOMPANYING POSTERS AND DEMOS

- P.1 Pao Siangliulue, Joel Chan, Bernd Huber, Steven P. Dow, and Krzysztof Z. Gajos. IdeaHound: Self-sustainable idea generation in creative online communities. In *Proceedings of the 19th ACM Conference on Computer Supported Cooperative Work and Social Computing Companion, CSCW '16 Companion*, pages 98-101, New York, NY, USA, 2016. ACM.
- P.2 Nam Wook Kim, Zoya Bylinskii, Michelle A. Borkin, Aude Oliva, Krzysztof Z. Gajos, and Hanspeter Pfister. A Crowdsourced Alternative to Eye-tracking for Visualization Understanding. In *CHI'15 Extended Abstracts*, 2015.
- P.3 Na Li, Krzysztof Z. Gajos, Ken Nakayama, and Ryan Enos. TELLab: An Experiential Learning Tool for Psychology. In *Proceedings of the Second (2015) ACM Conference on Learning @ Scale, L@S '15*, pages 293-297, New York, NY, USA, 2015. ACM.
- P.4 Juho Kim, Robert C. Miller, and Krzysztof Z. Gajos. 2013. Learnersourcing Subgoal Labeling to Support Learning from How-to Videos. In *CHI'13 Extended Abstracts*.
- P.5 Juho Kim, Benjamin Malley, Joel Brandt, Mira Dontcheva, Diana Joseph, Krzysztof Z. Gajos, and Robert C. Miller. Photoshop with friends: a synchronous learning community for graphic design. In *Proceedings of the ACM 2012 conference on Computer Supported Cooperative Work Companion, CSCW '12*, pages 271-272, New York, NY, USA, 2012. ACM.
- P.6 Jayatilaka, L.G., Bertuccelli, L. F., Staszewski, J., and Gajos, K. Z. 2010. PETALS: a visual interface for landmine detection. In *adjunct proceedings of UIST'10*. New York, New York, USA.
- P.7 Gajos, K. Z., Long, J. J., and Weld, D. S. 2006. Automatically generating custom user interfaces for users with physical disabilities. In *Proceedings of the 8th international ACM SIGACCESS Conference on Computers and Accessibility (Portland, Oregon, USA, October 23 - 25, 2006)*. ASSETS'06. ACM, New York, NY, 243-244.
- P.8 Gajos, K. Z., Hoffmann, R., and Weld, D. S. 2004. Improving User Interface Personalization. In *adjunct proceedings of UIST'04*. Santa Fe, New Mexico.
- P.9 Oh, A., Fox, H., Van Kleek, M., Adler, A., Gajos, K., Morency, L., and Darrell, T. 2002. Evaluating look-to-talk: a gaze-aware interface in a collaborative environment. In *CHI '02 Extended Abstracts on Human Factors in Computing Systems (Minneapolis, Minnesota, USA, April 20 - 25, 2002)*. CHI'02. ACM, New York, NY, 650-651.

REFEREED WORKSHOP ARTICLES

- W.1 Maia Jacobs, Roy H. Perlis, Melanie F. Pradier, Finale Doshi-Velez, Elizabeth Mynatt, and Krzysztof Z. Gajos. Integrating ai recommendations into the pharmacologic management of major depressive disorder. In *Proceedings of the*

- workshop on Identifying Challenges and Opportunities in Human–AI Collaboration in Healthcare at CSCW 2019*, 2019. To appear.
- W.2 Sunyoung Kim, Yasha Irvantchi, Krzysztof Z. Gajos, and Barbara Grosz. SwellFit: a wearable sensor for patients with congestive heart failure. In *Proceedings of the Workshop on Interactive Systems in Healthcare (WISH) 2016*, 2016.
- W.3 Sunyoung Kim, Yasha Irvantchi, Krzysztof Z. Gajos, and Barbara Grosz. Exploring Opportunities for Social Infrastructure in Congestive Heart Failure Management. In *Proceedings of the CSCW 2015 workshop on Moving Beyond e-Health and the Quantified Self*, 2015.
- W.4 Ofra Amir, Barbara J. Grosz, Krzysztof Z. Gajos, Sonja M. Swenson, and Lee M. Sanders. 2014. AI Support of Teamwork for Coordinated Care of Children with Complex Conditions. In *AAAI Fall Symposium: Expanding the Boundaries of Health Informatics Using AI: Making Personalized and Participatory Medicine A Reality*.
- W.5 Steven Komarov and Krzysztof Z. Gajos. Organic peer assessment. In *Proceedings of the CHI 2014 Learning Innovation at Scale workshop*, 2014.
- W.6 Juho Kim, Shang-Wen (Daniel) Li, Carrie J. Cai, Krzysztof Z. Gajos, and Robert C. Miller. Leveraging video interaction data and content analysis to improve video learning. In *Proceedings of the CHI 2014 Learning Innovation at Scale workshop*, 2014.
- W.7 Mao, A., Chen, Y., Gajos, K. Z., Parkes, D. C., Procaccia, A. D., Zhang, H. 2012. TurkServer: Enabling Synchronous and Longitudinal Online Experiments. In *Proceedings of KDD-HCOMP'12*. ACM Press. 7 pages.
- W.8 Reinecke, K. and Gajos, K. Z., 2011. One size fits many Westerners: How Cultural Abilities Challenge UI Design. In *Proceedings of the Workshop on Dynamic Accessibility: Detecting and Accommodating Differences in Ability and Situation at CHI'11*.
- W.9 Huang, E., Zhang, H., Parkes, D. C., Gajos, K. Z., and Chen, Y. 2010. Toward automatic task design: A progress report. In *Proceedings of KDD-HCOMP'10*. ACM Press.
- W.10 Gajos, K.Z. 2010. Understanding How to Design Complex Brain-Controlled Applications. In *Proceedings of the Workshop on Brain, Body and Bytes: Psychophysiological User Interaction at CHI'10*. Atlanta, GA.
- W.11 Gajos, K. Z. 2009. Beyond Feature Relevance: Incorporating Rich User Feedback Into Interactive Machine Learning Applications. In *Proceedings of ADA-IML'09 Workshop*. At NIPS'09. Whistler, BC, Canada.
- W.12 Gajos, K. Z., and Weld, D.S. 2008. Usable AI: Experience and Reflections. In *Workshop on Usable Artificial Intelligence*. At CHI'08. Florence, Italy.
- W.13 DeRenzi, B., Gajos, K. Z., Parikh, T.S., Lesh, N., Mitchell, M., and Borriello, G. 2008. Opportunities for Intelligent Interfaces Aiding Healthcare in Low-Income Countries. In *Workshop on Intelligent User Interfaces for Developing Regions*. At IUI'08, Canary Islands, Spain.
- W.14 Gajos, K., Wu, A., and Weld, D.S. 2005. Cross-Device Consistency in Automatically Generated User Interfaces. In *Workshop on Multi-User and Ubiquitous User Interfaces (MU3I'05)*. At IUI'05. San Diego, CA.

- W.15 Gajos, K., and Weld, D.S. 2004. Automatically Generating User Interfaces For Ubiquitous Applications. In *Workshop on Ubiquitous Displays*. At UbiComp'05. Nottingham, England.
- W.16 Hammond, T., Gajos, K., Davis, R., and Shrobe, H. 2002. An Agent-Based System For Capturing And Indexing Software Design Meetings. In *Proceedings of the International Workshop on Agents in Design (WAID'02)*. Cambridge, MA.
- W.17 Gajos, K., and Kulkarni, A. 2001. FIRE: An Information Retrieval Interface For Intelligent Environments. In *Proceedings of International Workshop on Information Presentation and Natural Multimodal Dialogue (IPNMD 2001)*. Verona, Italy.
- W.18 Gajos, K. 2002. Rascal - A Resource Manager for Multi Agent Systems in Smart Spaces. In *Revised Papers From the Second international Workshop of Central and Eastern Europe on Multi-Agent Systems: From theory To Practice in Multi-Agent Systems* (September 26 - 29, 2001). B. Dunin-Keplicz and E. Nawarecki, Eds. Lecture Notes In Computer Science, vol. 2296. Springer, 111-120.
- W.19 Gajos, K., Weisman, L., and Shrobe, H. (2001). Design principles for resource management systems for intelligent spaces. In *Self-Adaptive Software: Applications*, volume 2614 of *Lecture Notes in Computer Science*, Springer, 143-158.

OTHER PUBLICATIONS

- O.1 Jacob O. Wobbrock, Krzysztof Z. Gajos, Shaun K. Kane, and Gregg C. Vanderheiden. Ability-based Design. *Commun. ACM*, 61(6):62-71, May 2018.
- O.2 Gajos, K.Z., Hurst, A., and Findlater, L. 2012. Personalized dynamic accessibility. In *interactions*, 19(2):69-73.
- O.3 Hurst, A., Gajos, K. Z., Findlater, L., Wobbrock, J. O., Sears, A., Trewin, S. 2011. Dynamic Accessibility: Detecting and Accommodating Differences in Ability and Situation. In *CHI '11 Extended Abstracts on Human Factors in Computing Systems (Vancouver, Canada)*.
- O.4 Findlater, L. and Gajos, K. Z. 2009. Design space and evaluation challenges of adaptive graphical user interfaces. In *AI Magazine*, 30(4).
- O.5 Spaulding, A., Gajos, K. Z., Jameson, A., Kristensson, P., Bunt, A., and Haines, W. 2009. Usable intelligent interactive systems: CHI 2009 special interest group meeting. In *Proceedings of the 27th international Conference Extended Abstracts on Human Factors in Computing Systems* (Boston, MA, USA, April 04 - 09, 2009). CHI EA '09. ACM, New York, NY, 2743-2746.
- O.6 Richter, K., Nichols, J., Gajos, K., and Seffah, A. 2006. The many faces of consistency in cross-platform design. In *CHI '06 Extended Abstracts on Human Factors in Computing Systems* (Montréal, Québec, Canada, April 22 - 27, 2006). CHI '06. ACM, New York, NY, 1639-1642. (workshop abstract)
- O.7 Weld, D. S., Anderson, C., Domingos, P., Etzioni, O., Gajos, K., Lau, T., and Wolfman, S. 2003. Automatically personalizing user interfaces. In *IJCAI'03*, Acapulco, Mexico. (invited paper)
- O.8 Gajos, K., and Shrobe, H. 2003. Delegation, Arbitration and High-Level Service Discovery as Key Elements of a Software Infrastructure for Pervasive Computing. AI Lab Memo 2003-016. Cambridge, MA.

INVITED TALKS

Plenary talks

1. *Designing for Intrinsic Motivation*. Keynote address at IsraHCI. Haifa, Israel. January 2019.
2. *Improving Safety and Efficiency of Humanitarian Landmine Clearance*. Opening keynote talk at the Summer School on Methods in HCI. Łódź, Poland. July 2017.
3. *Personalized Design at Scale for More Equitable Access to Digital Resources*. Invited plenary talk at the Center for Research on Computation and Society Symposium on Societal Impact through Computing Research. Cambridge, MA. September 2015
4. *Interactive Intelligent Systems*. Invited plenary talk at the New England Machine Learning Day. Cambridge, MA. May 2015
5. *Lightweight Technologies for Personal Health Monitoring*. Invited plenary talk at the 2014 EITA Conference on New Media and Biomedical Research. Cambridge, MA. July 2014
6. *Making the Web More Inclusive With Adaptive User Interfaces*. Keynote address at the ACM EICS conference. Rome, Italy, June 2014.

University colloquia

7. *Accurate Quantification of Motor Impairments in the Wild*. Brown Institute for Brain Science, Brown University, Providence, RI. December 2017
8. *Systems that Adapt to Their Users*. Distinguished Computer Science Colloquium, ETH, Zurich, Switzerland. November 2017
9. *Design and Discrimination*. KAIST, Daejeong, South Korea, October 2016
10. *Human-Computer Interaction Research in the Wild*. Georgia Tech GVU Seminar. Atlanta, GA. December 2015
11. *From Paid to Organic Crowdsourcing*. University of Minnesota, Computer Science Seminar. Minneapolis, MN. November 2015
12. *Lab in the Wild: Tools for Large-Scale HCI Research*. Worcester Polytechnic Institute Data Science Seminar Series. Worcester, MA. November 2015
13. *Lab in the Wild: Tools for Large-Scale Experimentation in HCI*. Segal Design Institute, Northwestern University, Evanston, IL. November 2015
14. *Lab in the Wild: Tools for Large-Scale Experimentation in HCI*. Stanford HCI Seminar, Stanford, CA. October 2015
15. *From Paid to Organic Crowdsourcing*. University of Washington, DUB Colloquium Series, Seattle, WA. October 2015
16. *From Paid to Organic Crowdsourcing*. CMU Human-Computer Interaction Institute, Pittsburgh, PA. October 2015
17. *Design at Scale^[SEP] for For the Long Tail*. UC San Diego, Sand Diego, CA. November 2014
18. *Adaptive User Interfaces*. CS departmental colloquium. University of Waterloo, Waterloo, Canada. July 2014
19. *Personalized Adaptive User Interfaces*. Tufts University, Medford, MA, January, 2014.
20. *Ability-Based Computing*. University of Zurich. Zurich, Switzerland, October 2011.
21. *Design as Optimization: Automatically Generating Personalized User Interfaces*. Boston University Computer Science Colloquium. Boston, MA, November 2010.

22. *Design as Optimization: Automatically Generating Personalized User Interfaces*. Temple University Computer Science Colloquium. Philadelphia, PA, April 2010.
23. *Automatically Generating Personalized User Interfaces*. MIT CSAIL HCI Colloquium. Cambridge, MA, February 2009.
24. *Automatically Generating Personalized User Interfaces*. Department of Informatics, University of California, Irvine. Irvine, CA, November 2008.

Industry talks

25. *Intelligent Interactive Systems*. Google. Cambridge, MA. July 2019
26. *Organic Crowdsourcing*. McKinsey & Company, Inc., North American Knowledge Center. Waltham, MA. July 2015
27. *Lightweight tools for personal health monitoring*. Becton Dickinson, Raleigh, NC, March, 2014.
28. *Tools for Large Scale Public Engagement with Research*. Microsoft Research New England, Cambridge, MA, December, 2013.
29. *Interactive Systems that Adapt to Their Users*. United Technologies Research Center, East Hartford, CT, June 2012.
30. *Supple: Automatically Generating And Adapting User Interfaces*. Amazon, Seattle, WA. April 2005.
31. *Supple: Automatically Generating And Adapting User Interfaces*. SAP Research Headquarters, Walldorf, Germany. July 2004.
32. *Supple: Automatically Generating And Adapting User Interfaces*. Intel Research, Seattle, WA. June 2004.

Guest lectures

33. *Using Models of Human Performance to Inform Design*. MIT 6.831: User Interface Design & Implementation, 2014
34. *Scalable Personalized Adaptive (Computer) Accessibility*. MIT 6.S196: Principles and Practices of Assistive Technology. 2013
35. *Interactive Machine Learning*. MIT Media Lab: Interactive Machine Learning, 2013
36. *Personalized Adaptive Accessibility*. MIT 6.S196: Principles and Practices of Assistive Technology. 2012
37. *AI and Design*. Harvard CS 182: Intelligent Machines: Reasoning, Actions, and Plans, 2011
38. *Ability-Based Computing*. MIT 6.S196: Principles and Practices of Assistive Technology. 2011
39. *Mobility, Human Performance and Design*. MIT 6.831: User Interface Design & Implementation, 2010
40. *AI and Design*. Harvard CS 182: Intelligent Machines: Reasoning, Actions, and Plans, 2010

Other

41. *What's Hot in Human-Computer Interaction Research?* RCC-ISDI Seminar in Digital Business, Cambridge, MA, July 2015.
42. *LabintheWild: Large Scale Experimentation with Online Volunteers*. KAIST, Daejeon, South Korea. April 2015

43. *What's Hot in Human-Computer Interaction Research?* RCC-ISDI Seminar in Digital Business, Cambridge, MA, July 2014.
44. *Design: How Designers Create Useful and Usable Interactive Systems.* RCC-ISDI Seminar in Digital Business, Cambridge, MA, July 2013.
45. *Personalizable Graphical User Interfaces.* State of the Science Conference: Matching Needs of Users with Disabilities to Emerging Technology Capabilities: Setting an R&D Agenda in Accessible Interface and Information Technologies. Gaithersburg, MD. February 2007.

PROFESSIONAL EXPERIENCE

Research Intern, Microsoft Research (Redmond, WA) (summer 2005)

Mentors: Mary Czerwinski and Desney Tan

Research Scientist, AI Lab, MIT (Cambridge, MA) (2000-2002)

Software Engineer, Channel One Communications (Cambridge, MA) (1996-1997)

TEACHING

Co-instructor: SW 47: Contemporary South Asia: Entrepreneurial Solutions to Intractable Social and Economic Problems (Harvard University) (2015-present)

Instructor: CS 179: Design of Useful and Usable Interactive Systems (Harvard University) (2010-present)

Instructor: CS 279: Topics In HCI Research (Harvard University) (2009-present)

Visiting Faculty, Ashesi University (Accra, Ghana) (fall 2005)

Course: Introduction to Artificial Intelligence

I developed and taught a quarter-long upper-level course in AI. As the first faculty with expertise in AI at Ashesi, I developed the curriculum, prepared and delivered all the lectures, developed and graded assignments and exams, and designed the laboratory exercises.

Teaching Assistant, U. of Washington (Seattle, WA) (spring 2004)

Course: CSE 473, Introduction to Artificial Intelligence

I developed and delivered three lectures. I designed the programming assignments, assisted in developing the theoretical assignments, and graded the majority of the assignments.

Instructor, Xindu Yi Zhong High School (Xindu, Sichuan Province, PRC) (summer 1999)

With two other volunteers, I designed and taught three intensive 2 week courses on Internet Technologies to teachers and students of Xindu Yi Zhong High School.

Co-Instructor, High School Studies Program, MIT (Cambridge, MA) (spring 1998)
Course: Introduction to Programming with Java

CURRENT GRADUATE STUDENTS AT HARVARD UNIVERSITY

Kenneth Arnold (2011 – present)
Bernd Huber (2015 – present)
Nam Wook Kim (co-advised with Hanspeter Pfister) (2014 – present)

FORMER GRADUATE STUDENTS

Kanya (Pao) Siangliulue (2011 – 2017)
Ofra Amir (co-advised with Barbara Grosz, now Prof. at Technion, Israel) (2012 – 2017)
Juho Kim (at MIT CSAIL, co-advised with Rob Miller, now Prof. at KAIST, Korea)
(2010 – 2015)

CURRENT POSTDOCTORAL FELLOWS AT HARVARD UNIVERSITY

Maia Jacobs (2018 – present)

FORMER POSTDOCTORAL FELLOWS AT HARVARD UNIVERSITY

Katharina Reinecke (currently Assistant Prof. at University of Washington CSE) (2010 – 2013)
Edith Law (currently Assistant Prof. at University of Waterloo) (2012 – 2014)
Sunyoung Kim (CRCS Fellow, currently Assistant Prof. at Rutgers University) (2014 – 2016)
Joseph Williams (HarvardX Fellow, currently Assistant Prof. at University of Toronto)
(2014 – 2017)
Na Li (2014 – 2017)

MAJOR PROFESSIONAL SERVICE

Journal Editorial Boards:

TiiS: ACM Transactions on Interactive Intelligent Systems (as Coeditor-in-Chief)
(2013 – 2016)

TiiS: ACM Transactions on Interactive Intelligent Systems (as Associate Editor)
(2012 – 2013, 2016 – 2018)

Conference Leadership:

UIST: ACM Symposium on User Interface Software and Technology (as General Chair)
(2017)

OTHER PROFESSIONAL SERVICE

Conference Program Committees as Associate Chair or Senior PC member:

CHI: ACM Conference on Human Factors in Computing Systems (2011 – 2014, 2019, 2021)

CSCW: ACM Conference on Computer-Supported Cooperative Work and Social
Computing (2016)

IUI: ACM International Conference on Intelligent User Interfaces (2008 – 2010)

IJCAI: International Joint Conference on Artificial Intelligence (2009)
UIST: ACM Symposium on User Interface Software and Technology
(2009, 2010, 2012, 2013, 2015)

Conference Program Committees as PC member:

AAAI: Conference on Artificial Intelligence (2005, 2008, 2011)
ASSETS: ACM SIGACCESS Conference on Computers and Accessibility
(2011, 2012, 2018)
CrowdConf (2013)
HCOMP: AAAI Conference on Human Computation and Crowdsourcing (2013, 2014)
IEEE Accessing the Future Conference (2009)
IJCAI: International Joint Conference on Artificial Intelligence (2011)
IUI: ACM International Conference on Intelligent User Interfaces (2007)
UIST: ACM Symposium on User Interface Software and Technology (posters)
(2006, 2007)
RecSys: ACM Recommender Systems (2010)
WWW: International World Wide Web Conference (2013, 2019)

Conference Organizing Committees:

ASSETS: ACM Conference on Computers and Accessibility
(chair of the Student Research Competition) (2011)
CSCW: ACM Conference on Computer-Supported Cooperative Work and Social
Computing
(co-chair of the best paper committee) (2016)
IUI: ACM International Conference on Intelligent User Interfaces
(Demo & Poster Madness chair) (2009)
UIST: ACM Symposium on User Interface Software and Technology
(registration co-chair) (2009, 2010)

Other Roles at Conferences:

Member of Doctoral Symposium Faculty Panel: ACM ASSETS Conference (2009)
Mentor at the Student Consortium: ACM IUI Conference (2015)
Member of Doctoral Symposium Faculty Panel: ACM UIST Conference (2010)

Workshop Committees:

Many People, Many Eyes at CHI 2013 (organizing and program committees) (2013)
Workshop on Mobile Accessibility at CHI 2013 (program committee) (2013)
Evaluation methods for creativity support environments (program committee) (2013)
Dynamic Accessibility: Detecting and Accommodating Differences in Ability and
Situation at CHI 2011 (organizing and program committees) (2011)
Intelligence and Interaction at IJCAI 2009 (program committee) (2009)
Many Faces of Consistency at CHI 2006 (organizing and program committees) (2006)

Grant Review Panels

NSF (2009, 2010, 2013)
Swiss National Science Foundation (2010, 2018)

Canada Foundation for Innovation (2018)

Reviewer of Journal Publications:

ACM Transactions on Accessible Computing (TACCESS) (2010, 2014, 2016, 2019)
ACM Transactions on Computer-Human Interaction (ToCHI) (2006, 2009, 2012 – 2015)
ACM Transactions on Interactive Intelligent Systems (TiiS) (2011, 2012)
ACM Transactions on Internet Technology (TOIT) (2015)
Adaptive Behavior (2004)
Applied Clinical Informatics (2019)
Artificial Intelligence (2003)
Behaviour & Information Technology (2018)
Communications of the ACM (CACM) (2012, 2013, 2015, 2019)
Computer Graphics and Applications (2007, 2008)
The Computer Journal (2008)
IEEE Embedded Systems Letters (2012)
IEEE Transactions on Haptics (2010)
IEEE Transactions on Pattern Analysis and Machine Intelligence (2016, 2017)
IEEE Pervasive Computing (2010, 2014)
Interacting with Computers (2006, 2007)
International Journal of Human-Computer Studies (2009 – 2015)
MIS Quarterly (2014)
New Review of Hypermedia and Multimedia (2012)
Nursing Outlook (2019)
Proceedings of the National Academy of Sciences (PNAS) (2018)
Software: Practice and Experience (2006)

Reviewer of Conference Publications:

C&C: ACM Creativity and Cognition (2015)
CHI: ACM Conference on Human Factors in Computing Systems
(2006 – 2010, 2015, 2016, 2018)
CSCW: ACM Conference on Computer Supported Cooperative Work (2011, 2018)
EICS: ACM SIGCHI Symposium on Engineering Interactive Computing Systems
(2009 – 2011, 2014, 2015)
GI: Graphics Interface (2005, 2006, 2011)
IUI: ACM International Conference on Intelligent User Interfaces
(2006, 2007, 2012, 2013, 2019)
MobileHCI (2013, 2014)
Pervasive: International Conference on Pervasive Computing (2002, 2006, 2007)
Pervasive Health (2014)
UbiComp: International Conference on Ubiquitous Computing
(2002, 2003, 2006 – 2008, 2011, 2012, 2014)
UIST: ACM Symposium on User Interface Software and Technology
(2003, 2005 – 2008, 2011, 2014, 2018)
WWW: International World-Wide Web Conference (2007)