

Henry A. Kautz, Ph.D.

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Employment

Senior Advisor *Science & Technology Futures* *March 2023–Present*
Cambridge, MA

- Create a roadmap for new funding programs to support AI for science.
- Interviewed 50 leading researchers who are using AI to advance biology, chemistry, environmental science, material science, mechanical engineering, neuroscience, or physics.
- Identified common research themes, infrastructure needs, funding gaps, and ways to overcome bottlenecks to progress created by traditional academic culture.

Advisor *AIM Intelligent Machines* *July 2022–Present*
Seattle, WA

- Advise autonomous earthmover startup on automated planning technology.

Director *Division of Information & Intelligent* *June 2018–2022*
Systems, National Science Foundation

- Directed the division of NSF Computer and Information Science (CISE) that funds research in artificial intelligence, human-computer interaction, and data science. Appointment to NSF through the Intergovernmental Personnel Act while retaining rank as professor at the University of Rochester.
- Managed a \$230 million budget and 36 scientific and administrative employees.
- Led of the National AI Research Institutes program, which is funding a series of \$20 million centers in foundational and applied artificial intelligence. Work includes developing partnerships with industry and other government agencies. Partners to date include Google, Amazon, IBM, Intel, Accenture, and the federal departments of Agriculture, Homeland Security, and Education.
- Led creation of joint core program between CISE and the Directorate for Engineering on Foundational Research in Robotics.
- Co-chaired the Interagency Working Group on Artificial Intelligence at the Networking and Information Technology Research and Development program. Co-edited *The National Artificial Intelligence Research and Development Strategic Plan: 2019 Update* and *2016–2019 Progress Report: Advancing Artificial Intelligence R&D*.
- Gave talks and briefings on the state and future directions of AI research to the National Security Commission, US Army Cybercommand, NASA, Federal Trade Commission, Food & Drug Agency, and other agencies.

Advisor *Verneek* *2021–Present*
New York, NY

Incoming Chair, Chair, & Outgoing Chair	American Association for the Advancement of Science (AAAS) Section on Information, Computing and Communication	2016-2019
Classic Paper Award	Association for the Advancement of Artificial Intelligence	2016
Deployed Application Award	Conference on Innovative Applications of Artificial Intelligence (IAAI)	2016
Robin & Tim Wentworth Directorship	University of Rochester	2015
Fellow	Association for Computing Machinery	2014
10-Year Impact Award	ACM International Joint Conference on Pervasive and Ubiquitous Computing	2013
President-Elect, President, & Past President	Association for Advancement of Artificial Intelligence (AAAI)	2009-2014
Fellow	American Association for the Advancement of Science (AAAS)	2007
Fellow	Association for Advancement of Artificial Intelligence (AAAI)	1997
Computers & Thought Award	International Joint Conference on Artificial Intelligence (IJCAI)	1989
Notable Paper	First AAAI Conference on Human Computation and Crowdsourcing (HCOMP)	2013
Best Paper	Fifth ACM International Conference on Web Search and Data Mining (WSDM)	2012
Notable Paper	Conference on Artificial Intelligence (AAAI)	2012
Best Paper	IEEE International Symposium on Wearable Computers (ISWC)	2005
Best Paper	Conference on Artificial Intelligence (AAAI)	2004
Best Paper	Conference on Artificial Intelligence (AAAI)	1996
Notable Paper	Conference on Artificial Intelligence (AAAI)	1993
Best Paper	International Conference on Knowledge Representation & Reasoning (KRR)	1989

Best Paper	Canadian Society for Computational Studies of Intelligence (CSCSI)	1988
1st Place	ICAPS Planning Competition (Optimal Track)	2004 & 2006

PhDs Supervised

Anis Zaman	<i>Combining traditional and non-traditional data streams for understanding mental health.</i> Current employer: eBay, San Jose, CA	2021
Nabil Hossain	<i>Creative Natural Language Generation.</i> Current employer: Roku, Austin, TX	2020
Brian Dickinson	<i>Improving our Understanding of Society through Global Patterns of Human Mobility.</i> Current position: Assistant Professor, Grove City College, PA	2020
Tim Kopp	<i>Symmetry Exploitation for Inference in Relational Theories.</i> Current employer: Pivotal, New York, NY	2017
Young Song Chol	<i>Fine Grained Activity Recognition Using Multimodal Data Sets.</i> Current employer: Noodle AI, San Francisco, CA	2016
Anna Loparev	<i>The Impact of Collaborative Scaffolding in Educational Video Games on the Collaborative Support Skills of Middle School Students.</i> Current employer: Waters, Milford, MA	2016
Iftekhhar Naim	<i>Unsupervised Alignment of Natural Language with Video.</i> Current employer: Google, Mountainside, CA	2015
Yi Chu	<i>Intelligent Prompting Systems for People with Cognitive Disabilities.</i> Current employer: WorkHuman, Boston, MA	2013
Tivadar Papai	<i>Exploiting Constraints, Sequential Structure, and Knowledge in Markov Logic Networks.</i> Current employer: Google, Mountainside, CA	2013
Chetan Bhole	<i>Image Segmentation Using Conditional Random Fields.</i> Current employer: A9, Seattle, WA	2012

Adam Sadilek	<i>Modeling Human Behavior at a Large Scale.</i> Current position: CEO, AIM Intelligent Machines, Seattle, WA	2012
Alan Liu	<i>Design of an Adaptive Wayfinding System for Individuals with Cognitive Impairments.</i> Current employer: Kiha, Seattle, WA	2010
Tian Sang	<i>Combining Caching and Clause Learning in Weighted Model Counting.</i> Current employer: Microsoft, Seattle, WA	2007
Lin Liao	<i>Location-Based Activity Recognition.</i> Current employer: Google Labs, Seattle, WA	2006
Ashish Sabharwal	<i>Propositional Proof Complexity and its Applications to Satisfiability Algorithms.</i> Current employer: Paul J. Allen Institute for Artificial Intelligence, Seattle, WA	2005
Don Patterson	<i>Learning Predictive Models of Large and Small Scale Human Activity.</i> Current position: Professor, Westmont College, Santa Barbara, CA	2005
Yongshao Ruan	<i>Efficient Inference: A Machine Learning Approach.</i> Current employer: SourceLabs, Seattle, WA	2004

Grants Received

NSF	NSF-REU: Computational Models for Understanding Music, Media, & the Mind. PI.	\$324,000	2017-2019
NSF	NRT-DESE: Graduate Training in Data- Enabled Research into Human Behavior and its Cognitive and Neural Mechanisms. PI.	\$3,000,000	2015-2020
NSF	TwitterHealth: Learning Fine-Grained Models of Health Influences and Interactions from Social Media. PI.	\$481,939	2013-2016
Intel	Intel Science and Technology Center for Pervasive Computing (ISTCPC). PI.	\$700,000	2011-2016
DOD	Automated Scene Understanding – Phase II. Subcontract from ObjectVideo. Joint with J. Luo.	\$254,644	2012-2013

NIH	Diffusion-based Sampling Processes Study: Health-risk Behavior in Hidden Online Communities. Joint with V. Silenzio. Co-PI.	\$76,051	2011-2014
ONR	Language as Action and Natural Reasoning. Joint with J. Allen. Co-PI.	\$1,499,999	2011-2014
DOD	Automated Scene Understanding – Phase I. Subcontract from ObjectVideo.	\$24,669	2011
NSF	Integrating Teaching and Learning in a Cognitive Assistant. Joint with J. Allen. Co-PI.	\$749,986	2010-2013
ARO	MURI: A Unified Approach to Abductive Inference. Co-PI.	\$630,449	2008-2013
DARPA	Increasing Independence for Individuals with Brain Injury with Integrated Cueing, Monitoring and Planning – Phase II. SBIR with Attention Control Systems. PI.	\$294,408	2009-2010
OSD	A Conversational Independent Living Assistant for Cognitive Impairment – Phase II. SBIR with Attention Control Systems. PI.	\$226,801	2009-2011
Kodak	Gift.	\$165,000	2006-2010
OSD	Cognitive Assistive Technology for Individuals with TBI. SBIR with Sendero Inc. and University of Washington. PI.	\$100,000	2008
DARPA	Increasing Independence for Individuals with Brain Injury with Integrated Cueing, Monitoring and Planning – Phase I. SBIR with Attention Control Systems. PI.	\$98,996	2008
NYSTAR	Probabilistic Models of Human Activity and their Applications to Assistive Technologies.	\$336,738	2006-2009
DARPA	CALO: Cognitive Agent that Learns and Observes. Subcontract from SRI. Co-PI.	\$149,878	2006-2007
NSF	Building High-Level Models of Human Behavior from Low-Level Sensor Data. PI.	\$ 220,000	2005-2009
DARPA	CALO: Cognitive Agent that Learns and Observes. Subcontract from SRI. Joint with P. Domingos and D. Fox.	\$553,000	2005-2006
DARPA	ASSIST: Situation Assessment & Activity Recognition. Joint with D. Fox, G. Borriello, J. Bilmes, and D. Weld.	\$649,000	2005-2006
DARPA	CALO: Situation Awareness. Joint with D.	\$400,000	2004-2005

	Weld and D. Fox.		
DARPA	Usability Study of a Personal Guidance System for the Cognitively Disabled.	\$50,000	2005-2006
NIDRR	Assisted Cognition in Community, Employment, and Support Settings (ACCESS). Joint with K. Johnson, G. Borriello, P. Brown, M. Harniss, and B. Dudgeon.	\$1,495,000	2004-2007
NSF	ITR: Creating Dynamic Social Network Models from Sensor Data. Joint with D. Fox, J. Kitts, T. Choudhury, and J. Rehg.	\$795,400	2002-2005
NSF	ITR: Inference in AI, Verification, and Theory: A Unified Approach. Joint with P. Beam.	\$490,000	2001-2004
ONR	Beowulf Cluster Supercomputing for AI, Data Mining, and Database Research. Joint with D. Weld, D. Fox, P. Domingos, and O. Etzioni.	\$134,700	2002
Intel	Assisted Cognition. PI.	\$270,000	2002-2005
NSF	Principles of Efficient Inference. PI.	\$420,000	2001-2004

Patents

No. 5636328	Methods and apparatus for constraint satisfaction. Henry Kautz, Bart Selman	June 3, 1997
No. 5619648	Message filtering techniques. Leonard M. Canale, Henry A. Kautz, Allen E. Milewski, Bart Selman	April 8, 1997

Publications

Google Scholar statistics:

Citations	35,764
h-index	81
i10-index	177

2023

Henry Kautz (2023). Review: Machines Like Us: Toward AI with Common Sense, by Ronald J. Brachman and Hector J. Levesque. Preprint. Prometheus: Critical Studies in Innovation, 39: 2.

2022

Henry Kautz (2022). The Third AI Summer. *AI Magazine*, Volume 43, Issue 1, Spring 2022, Pages 105-125.

Henry Kautz (2022). Unlocking Government Data to Support and Evaluate Scientific Research: An Overview of Selected Papers from the Value of Science Conference. *Harvard Data Science Review*, Issue 4.2, Spring 2022.

2021

Samuel Lerman, Charles Venuto, Henry Kautz, and Chenliang Xu. Explaining Local, Global, and Higher-Order Interactions in Deep Learning. *Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)*, 2021, pp. 1224-1233.

Anis Zaman, Henry Kautz, Vincent Silenzio, Md. Ehsan Hoque, and Corey Nichols. Discovering Intimate Partner Violence from Web Search History. *Smart Health*, Vol. 19, 2021.

2020

Jesse Wang, Marc Lavender, Ehsan Hoque, Patrick Brophy, and Henry Kautz (2020). A patient-centered digital scribe for automatic medical documentation. *Journal of Medical Artificial Intelligence (JAMIA Open)*, 2021; ooab003, <https://doi.org/10.1093/jamiaopen/ooab003>.

Anis Zaman, Boyu Zhang, Ehsan Hoque, Vincent Silenzio, Henry Kautz (2020). The Relationship between Deteriorating Mental Health Conditions and Longitudinal Behavioral Changes in Google and YouTube Usages among College Students in the United States during COVID-19: Observational Study. *JMIR Mental Health* 7(11), e24012, 2020.

Boyu Zhang, Anis Zaman, Rupam Acharyya, Ehsan Hoque, Vincent Silenzio, Henry Kautz (2020). Detecting Individuals with Depressive Disorder from Personal Google Search and YouTube History Logs. *NeurIPS 2020 Workshop on Machine Learning in Public Health*, 2020.

Anis Zaman, Vincent Silenzio, and Henry Kautz (2020). MIND: A Tool for Mental Health Screening and Support of Therapy to Improve Clinical and Research Outcomes. *EAI PervasiveHealth 2020 - 14th EAI International Conference on Pervasive Computing Technologies for Healthcare*, 6-8 October 2020.

Nabil Hossain, John Krumm, Michael Gamon and Henry Kautz (2020). SemEval-2020 Task 7: Assessing Humor in Edited News Headlines. Proceedings of the 14th Workshop on Semantic Evaluation, 2020.

Nabil Hossain, John Krumm, Tanvir Sajed and Henry Kautz (2020). Stimulating Creativity with Funlines: A Case Study of Humor Generation in Headlines. ACL 2020: The 58th Annual Meeting of the Association for Computational Linguistics, 6-8 July 2020.

Nabil Hossain, Minh Tran and Henry Kautz (2020). A Framework for Political Portmanteau Decomposition. ICWSM 2020: 14TH International Conference on Web and Social Media, 8-11 June 2020.

Brian Dickinson, Gourab Ghoshal, Xerxes Dotiwalla, Adam Sadilek, and Henry Kautz (2019). Inferring Nighttime Satellite Imagery from Human Mobility. Proceedings of the Thirty-Fourth AAAI Conference on Artificial Intelligence (AAAI 2020), New York, NY, Feb. 2020.

2019

Caroline P. Thirukumaran, Anis Zaman, Paul T. Rubery, Casey Calabria, Yue Li, Benjamin F. Ricciardi, Wajeeh R. Bakhsh, and Henry Kautz (2019). Natural Language Processing for the Identification of Surgical Site Infections in Orthopaedics. The Journal of Bone and Joint Surgery, 18 Dec. 2019.

Alex Bassolas, Hugo Barbosa-Filho, Brian Dickinson, Xerxes Dotiwalla, Paul Eastham, Riccardo Gallotti, Gourab Ghoshal, Bryant Gipson, Surendra A. Hazarie, Henry Kautz, Onur Kucuktunc, Allison Lieber, Adam Sadilekm and José J. Ramasco (2019). Hierarchical organization of urban mobility and its connection with city livability. Nature Communications, Vol. 10, Article No. 4817, 2019.

Jesse Wang and Henry Kautz (2019). CupQ: A New Clinical Literature Search Engine. Proceedings of the 11th International Conference on Knowledge Discovery and Information Retrieval (KDIR 2019), Vienna, Austria, September 17-19, 2019.

Anis Zaman, Rupam Acharyya, Henry Kautz, and Vincent Silenzio (2019). Detecting Low Self-Esteem in Youths from Web Search Data. The Web Conference (WWW 2019), San Francisco, 2019.

2018

Nabil Hossain, Thanh Thuy Trang Tran and Henry Kautz (2018). Discovering Political Slang in Readers' Comments. 12th International AAAI Conference on Web and Social Media (ICWSM-2018), Stanford, CA, 2018.

Ann Marie White, Linxiao Bai, Christopher Homan, Melanie Funchess, Catherine Cerulli, Amen Ptah, Deepak Pandita, and Henry Kautz (2018). Does Reciprocal Gratefulness in Twitter Predict Neighborhood Safety?: Comparing 911 Calls Where Users Reside or Use Social Media. 12th International AAAI Conference on Web and Social Media (ICWSM-2018), Stanford, CA, 2018.

2017

Nabil Hossain, John Krummy, Lucy Vanderwendey, Eric Horvitz and Henry Kautz. Filling the Blanks (hint: plural noun) for Mad Libs (c) Humor. Conference on Empirical Methods in Natural Language Processing (EMNLP 2017), Copenhagen, Denmark, 2017.

Anis Zaman, Nabil Hossain, Henry Kautz. Twitter911: A Cautionary Tale. Proceedings of the 11th International AAAI Conference on Web and Social Media (ICWSM-2017). Montreal, Canada, 2017.

Tianran Hu, Eric Bigelow, Jiebo Luo, Henry A. Kautz. Tales of Two Cities: Using Social Media to Understand Idiosyncratic Lifestyles in Distinctive Metropolitan Areas. IEEE Trans. Big Data 3(1): 55-66, 2017.

Adam Sadilek, Henry A. Kautz, Lauren DiPrete, Brian Labus, Eric Portman, Jack Teitel, Vincent Silenzio. Deploying nEmesis: Preventing Foodborne Illness by Data Mining Social Media. AI Magazine 38(1): 37-48, 2017.

2016

P. Thiha, A. R. Pisani, K. Gurditta, E. Cherry, D. R. Peterson, H. Kautz, P. Wynman. Efficacy of web-based collection of strength-based testimonials for text message extension of youth suicide prevention program: randomized controlled experiment. JMIR Public Health Surveillance, vol. 2, no. 2, Nov, 2016.

Iftekhhar Naim, Abdullah Al Mamun, Young Chol Song, Jiebo Luo, Henry Kautz, Daniel Gildea, Aligning Movies with Scripts by Exploiting Temporal Ordering Constraints, International Conference on Pattern Recognition (ICPR), Cancun, Mexico, December 2016.

Young Chol Song, Iftekhhar Naim, Abdullah Al Mamun, Kaustubh Kulkarniy, Parag Singlay, Jiebo Luo, Daniel Gildea, Henry Kautz. Unsupervised Alignment of Actions in Video with Text Descriptions. 25th International Joint Conference on Artificial Intelligence (IJCAI-16), New York, NY, 2016.

Nabil Hossain, Tianran Hu, Roghayeh Feizi, Ann Marie White, Jiebo Luo and Henry Kautz. Precise Localization of Homes and Activities: Detecting Drinking-While-Tweeting Patterns in Communities. 10th International AAAI Conference on Web and Social Media (ICWSM-16), Cologne, Germany, 2016.

Tianran Hu, Jiebo Luo, Henry A. Kautz, Adam Sadilek: Home location inference from sparse and noisy data: models and applications. *Information Technology & Electronic Engineering* 17(5): 389-402, 2016.

Adam Sadilek, Henry Kautz, Lauren DiPrete, Brian Labus, Eric Portman, Jack Teitel, and Vincent Silenzio. Deploying nEmesis: Preventing Foodborne Illness by Data Mining Social Media. 28th Annual Conference on Innovative Applications of Artificial Intelligence (IAAI-16), Phoenix, AZ, 2016.

Henry Kautz and Parag Singla. Technical Perspective: Combining Logic and Probability. *Communications of the ACM*, vol. 59, no. 2, pp. 106, July, 2016.

Tong Liu, Cecilia Ovesdotter Alm, Ann Marie White, Henry Kautz, Megan Lytle, Christopher M. Homan (2016). Understanding Discourse on Work and Job-Related Well-Being in Public Social Media, *ACL 2016: Annual meeting of the Association for Computational Linguistics*, Berlin, Germany, pages1044-1053, 2016.

2015

Tim Kopp, Parag Singla, and Henry Kautz. Lifted Symmetry Detection and Breaking for MAP Inference. 29th Annual Conference on Neural Information Processing (NIPS 2015), Montreal, Canada, 2015.

Iftekhar Naim, Young C. Song, Qiguang Liu, Liang Huang, Henry Kautz, Jiebo Luo and Daniel Gildea. Discriminative Unsupervised Alignment of Natural Language Instructions with Corresponding Video Segments, 2015 Conference of the North American Chapter of the Association for Computational Linguistics - Human Language Technologies (NAACL HLT 2015), Denver, Colorado, 2015.

Dawei Zhou, Jiebo Luo, Vincent Silenzio, Yun Zhou, Glenn Currier, and Henry Kautz. Tackling Mental Health by Integrating Unobtrusive Multimodal Sensing. 29th Conference on Artificial Intelligence (AAAI-2015), Austin, TX, 2015.

2014

Danning Zheng, Tianran Hu, Quanzeng You, Henry Kautz, and Jiebo Luo. Inferring Home Location from User's Photo Collections based on Visual Content and Mobility Patterns. *ACM Multimedia Conference, Workshop on Geotagging in Multimedia (GeoMM)*, November 2014.

Iftekhar Naim, Young Chol Song, Qiguang Liu, Henry Kautz, Jiebo Luo, and Daniel Gildea (2014). Unsupervised Alignment of Natural Language Instructions with Video Segments. 29th AAAI Conference on Artificial Intelligence (AAAI-14), Quebec City, Canada, 2014.

Adam Sadilek, Christopher Homan, Walter S. Lasecki, Vincent Silenzio, and Henry Kautz. Modeling Fine-Grained Dynamics of Mood at Scale. WSDM 2014 Workshop on Diffusion Networks and Cascade Analytics, New York City, Feb 24-28, 2014.

2013

Young Chol Song, Henry Kautz, James Allen, Mary Swift, Yuncheng Li, Jiebo Luo, and Ce Zhang. A Markov Logic Framework for Recognizing Complex Events from Multimodal Data. 15th ACM International Conference on Multimodal Interaction (ICMI 2013), Sydney, Australia.

Adam Sadilek, Sean Brennan, Henry Kautz, and Vincent Silenzio (2013). nEmesis: Which Restaurants Should You Avoid Today? First AAAI Conference on Human Computation and Crowdsourcing (HCOMP-2013), Palm Springs, CA, 2013.

Sean Brennan, Adam Sadilek, and Henry Kautz (2013). Towards Understanding Global Spread of Disease from Everyday Interpersonal Interactions. 23rd International Joint Conference on Artificial Intelligence (IJCAI 2013), Beijing, China, 2013.

Henry Kautz (2013). Senior Member Presentation: Data Mining Social Media for Public Health Applications. 23rd International Joint Conference on Artificial Intelligence (IJCAI 2013), Beijing, China, 2013.

Walter S. Lasecki, Young Chol Song, Henry Kautz, and Jeffrey P. Bigham (2013). Real-Time Crowd Labeling for Deployable Activity Recognition. 16th ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW 2013), San Antonio, TX, 2013.

Adam Sadilek and Henry Kautz (2013). Modeling the Impact of Lifestyle on Health at Scale. Sixth ACM International Conference on Web Search and Data Mining (WSDM 2013). Rome, Italy, 2013.

Tivadar Pápai, Henry Kautz, and Daniel Stefankovic (2013). Reasoning Under the Principle of Maximum Entropy for Modal Logics K45, KD45, and S5. 14th Conference on Theoretical Aspects of Rationality and Knowledge (TARK 2013), Chennai, India, 2013.

2012

Tivadar Pápai, Henry Kautz, and Daniel Stefankovic (2012). Slice Normalized Dynamic Markov Logic Networks. Neural Information Processing Systems (NIPS 2012), Lake Tahoe, Nevada, 2012.

Tivadar Pápai, Shalini Ghosh, and Henry Kautz (2012). Combining Subjective Probabilities and Data in Training Markov Logic Networks. European Conference on Machine Learning (ECML), Bristol, UK, 2012.

Adam Sadilek, Henry Kautz, and Vincent Silenzio (2012). Predicting Disease Transmission from Geo-Tagged Micro-Blog Data. 26th Conference on Artificial Intelligence (AAAI-12), Toronto, Canada, 2012.

Young Chol Song and Henry Kautz (2012). A Testbed for Learning by Demonstration from Natural Language and RGB-Depth Video. 26th Conference on Artificial Intelligence (AAAI-12), Toronto, Canada, 2012.

M. Swift, G. Ferguson, L. Galescu, Y. Chu, C. Harman, H. Jung, I. Perera, Y. Song, J. Allen, H. Kautz (2012). A multimodal corpus for integrated language and action. International Workshop on MultiModal Corpora for Machine Learning, Istanbul, Turkey, 2012.

Adam Sadilek, Henry Kautz, and Vincent Silenzio (2012) Modeling Spread of Disease from Social Interactions. Sixth AAAI International Conference on Weblogs and Social Media (ICWSM-2012), Dublin, Ireland, 2012.

Adam Sadilek and Henry Kautz (2012). Modeling Success, Failure, and Intent of Multi-Agent Activities Under Severe Noise. In Tom Lovett and Eamonn O'Neill, Eds., Mobile Context Awareness, Springer-Verlag, 2012, pp. 9-64.

Adam Sadilek, Henry Kautz and Jeffrey P. Bigham (2012). Finding Your Friends and Following Them to Where You Are. Fifth ACM International Conference on Web Search and Data Mining (WSDM 2012). Seattle, WA, 2012. Best Paper Award.

Adam Sadilek and Henry Kautz (2012). Location-Based Reasoning about Complex Multi-Agent Behavior, Journal of Artificial Intelligence Research (JAIR), vol. 42, 2012, pp. 87-133.

Yi Chu, Young Chol Song, Richard Levinson, and Henry Kautz (2012). Interactive Activity Recognition and Prompting to Assist People with Cognitive Disabilities. Journal of Ambient Intelligence and Smart Environments, 4(5) 2012, pp. 443-459.

2011

Tivadar Papai, P. Singla, and Henry Kautz (2011). Constraint Propagation for Efficient Inference in Markov Logic. 17th International Conference on Principles and Practice of Constraint Programming (CP 2011), Perugia, Italy, pp. 691-705.

Yi Chu, Young Chol Song, Henry Kautz, and Richard Levinson (2011). When Did You Start Doing That Thing That You Do? Interactive Activity Recognition and Prompting. AAAI 2011 Workshop on Artificial Intelligence and Smarter Living: The Conquest of Complexity, San Francisco, August 2011.

2010

Adam Sadilek and Henry Kautz (2010). Recognizing Multi-Agent Activities from GPS Data. 24th Conference on Artificial Intelligence (AAAI-2010), July 11–15, 2010, Atlanta, Georgia.

Adam Sadilek and Henry Kautz (2010). Modeling and Reasoning about Success, Failure and Intent of Multi-Agent Activities. UbiComp 2010 Workshop on Mobile Context-Awareness, Copenhagen, Denmark, Sept. 2010.

A.L. Liu, G. Borriello, H. Kautz, P.A. Brown, M. Harniss, and K. Johnson (2010). Learning User Models to Improve Wayfinding Assistance for Individuals with Cognitive Impairment. Workshop on Interactive Systems in Healthcare, Atlanta, GA, April 2010.

2009

Ross Messing, Chris Pal, and Henry Kautz (2009). Activity recognition using the velocity histories of tracked keypoints. 12th IEEE International Conference on Computer Vision (ICCV 2009), Kyoto, 2009.

Alan L. Liu, Harlan Hile, Gaetano Borriello, Henry Kautz, Pat A. Brown, Mark Harniss, and Kurt Johnson (2009). Informing the Design of an Automated Wayfinding System for Individuals with Cognitive Impairments. Pervasive Health '09, London UK, April 1-3, 2009.

A.L. Liu, H. Hile, G. Borriello, P.A. Brown, M. Harniss, H. Kautz, K. Johnson (2009). Customizing Directions in an Automated Wayfinding System for Individuals with Cognitive Impairments. International Conference on Computers and Accessibility (ASSETS 2009), Pittsburgh, PA, October 2009. Slides.

A.L. Liu, H. Hile, G. Borriello, H. Kautz, P.A. Brown, M. Harniss, K. Johnson (2009). Evaluating a Wayfinding System for Individuals with Cognitive Impairment. CHI Workshop on Evaluating New Interactions in Healthcare: Challenges and Approaches, Boston, MA, April 2009.

Liangliang Cao, Jiebo Luo, Henry Kautz, and Thomas S. Huang (2009). Image Annotation Within the Context of Personal Photo Collections Using Hierarchical Event and Scene Models ACM Transactions on Multimedia, 11 (2) February 2009.

Henry Kautz, Ashish Sabharwal, and Bart Selman (2009). Incomplete Algorithms. Chapter 6 of The Handbook of Satisfiability. Editors: Armin Biere, Marijn Heule, Hans van Maaren, and Toby Walsh. IOS Press, 2009.

2008

- Sangho Park and Henry Kautz (2008). Privacy-preserving Recognition of Activities in Daily Living from Multi-view Silhouettes and RFID-based Training. AAAI Fall 2008 Symposium on AI in Eldercare: New Solutions to Old Problems, Washington, DC, November 7 - 9, 2008.
- Joseph Modayil, Rich Levinson, Craig Harman, David Halper, and Henry Kautz (2008). Integrating Sensing and Cueing for More Effective Activity Reminders. AAAI Fall 2008 Symposium on AI in Eldercare: New Solutions to Old Problems, Washington, DC, Nov. 7-9, 2008.
- Junsong Yuan, Jiebo Luo, Henry Kautz, and Ying Wu (2008). Mining GPS Traces and Visual Words for Event Classification. ACM Multimedia Information Retrieval (MIR) Conference, Brave New Topics Session, Vancouver, BC, October 2008.
- Joseph Modayil, Tongxin Bai, and Henry Kautz (2008). Improving the Recognition of Interleaved Activities. 10th International Conference on Ubiquitous Computing (UBICOMP08), Seoul, South Korea, Sept. 21-24, 2008.
- Sangho Park and Henry Kautz (2008). Hierarchical Recognition of Activities of Daily Living using Multi-Scale, Multi-Perspective Vision and RFID. Fourth IET International Conference on Intelligent Environments, Seattle, WA, July 2008.
- Parag Singla, Henry Kautz, Jiebo Luo, Andrew Gallagher (2008). Discovery of Social Relationships in Consumer Photo Collections using Markov Logic. Third International Workshop on Semantic Learning and Applications in Multimedia Applications (in association with IEEE International Conference on Computer Vision and Pattern Recognition), Anchorage, Alaska, 2008.
- Carla P. Gomes, Henry Kautz, Ashish Sabharwal, and Bart Selman (2008). Satisfiability Solvers. Handbook of Knowledge Representation, in the series Foundations of Artificial Intelligence, vol. 3. Editors: Frank van Harmelen, Vladimir Lifschitz, and Bruce Porter. Elsevier, pp 89-134, 2008.
- A. Mihailidis, J. Boger, H. Kautz, and L. Normie, Eds. (2008) Technology and Aging: Selected Papers from the 2007 International Conference on Technology and Aging. IOS Press, Amsterdam, 2008.
- A.L. Liu, H. Hile, H. Kautz, G. Borriello, P.A. Brown, M. Harniss, and K. Johnson (2008). Indoor wayfinding: Developing a functional interface for individuals with cognitive impairments. Disability and Rehabilitation: Assistive Technology, 3(1-2) 2008, pp. 69-81.

2007

- L. Liao, D. J. Patterson, D. Fox, and H. Kautz (2007). Learning and Inferring Transportation Routines. Artificial Intelligence 171(5-6) 2007, 311-331.

Lin Liao, Tanzeem Choudhury, Dieter Fox, and Henry Kautz (2007). Training Conditional Random Fields using Virtual Evidence Boosting. 20th International Joint Conference on Artificial Intelligence (IJCAI-07), Hyderabad, India, 2007. [Click here for a poster.](#)

J. Hoffmann, H. Kautz, C. Gomes, and B. Selman (2007). SAT Encodings of State-Space Reachability Problems in Numeric Domains. 20th International Joint Conference on Artificial Intelligence (IJCAI-07), Hyderabad, India, 2007.

Tian Sang, Paul Beame, and Henry Kautz (2007). A Dynamic Approach to MPE and Weighted MAX-SAT. 20th International Joint Conference on Artificial Intelligence (IJCAI-07), Hyderabad, India, 2007.

L. Liao, D. Fox, and H. Kautz (2007). Extracting Places and Activities from GPS Traces Using Hierarchical Conditional Random Fields. *International Journal of Robotics Research*, 26(1) 2007, pp. 119-134.

William Pentney, Matthai Philipose, Jeff Bilmes and Henry Kautz (2007). Learning Large Scale Common Sense Models of Everyday Life. 27th Conference on Artificial Intelligence (AAAI-2007), Vancouver, Canada, 2007.

D. Wyatt, T. Choudhury, and H. Kautz (2007). Capturing Spontaneous Conversation and Social Dynamics: A Privacy Sensitive Data Collection Effort. IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2007), Honolulu, Hawaii, 2007.

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