

Curriculum Vitae – Illah R. Nourbakhsh

Professor of Robotics
Director, CREATE Laboratory
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Research Interests

Community-based Robotics, with an emphasis on complete design, fielding and evaluation cycles, formal educational evaluation, vision-based human-robot interaction, community robotic empowerment. Interest include autonomous, deliberate systems, human-robot systems.

Education

Ph.D.	Computer Science, Stanford University Dissertation: Interleaving Planning and Execution Advisor: Professor Michael R. Genesereth	1992-1996
M.S.	Computer Science, Stanford University	1992-1994
B.S.	Computer Science, Stanford University	1988-1992

Elected and Appointed Offices and Honors

•	Advisory Board, Pgh Neighborhood and Community Information System	2010-2011
•	NASA/Ames Honor Award for GigaPan Project	2010
•	Award of Honor, CMU Steinbrenner Institute, Media Fellowship Award	2010
•	Fred Rogers Center Task Force Appointee, St. Vincent College	2010
•	Program Committee, First Symposium on Educational Advances in AI	2010
•	Kavli Fellow, National Academy of Sciences	2009-2010
•	Kidsburgh Microsite Editorial Advisory Board	2009-2010
•	American Publishers Award for Excellence (<i>Springer Handbook of Robotics</i>)	2009
•	Public Art Committee (Carnegie Mellon University)	2009-2010
•	Advisory Board, Studio for Creative Inquiry	2009
•	Advisory Board, AMiRE Symposium	2009-
•	Advisory Board, International Robotics Education Forum	2008-2009
•	Board of Directors, Pittsburgh Parks Conservancy	2008-2011
•	Advisory Board, Carnegie Science Center RoboWorld	2007-2008
•	Advisory Board, IPRE (Georgia Tech, Bryn Mawr, Microsoft)	2008 -
•	Grable Foundation Community Cabinet	2007 -
•	Grable 'Children and Multimedia' Committee	2007
•	Elected Who's Who in Engineering	2007
•	Executive Committee, FIRST Roboburgh	2007
•	Heinz Endowments 3 rd Age City Team	2007
•	Senior Program Committee, AAI 2007	2007
•	Scientific Advisory Board, Polimetrica Publishing House (Italy)	2006
•	NASA/Ames Honor Award (Global Connection Project)	2006
•	Tech Museum Economic Development Award (Global Connection Project)	2006

- Senior Program Committee, AAAI 2006 2006
- Advisory Board appointee, Cogito.org (Johns Hopkins University) 2005-
- Editorial Board member, Journal of Artificial Intelligence Research 2005-2008
- Robotics Lead, NASA/Ames Research Center (GS15-10 civil servant) 2004-2005
- Principal Scientist, Witness Systems, Inc. 2005-2007
- Invited Member, Technical Committee, I-SAIRAS Robotics & Automation (US) 2005
- Appointed Member of US committee, IEEE RAS Industrial Activities Board 2004
- Adjunct Associate Professor, UC Santa Cruz 2004
- Educational Robotics appointee, WTEC Workshop on US Robotics baseline 2004
- Review Board appt, Rover Technology Office, NASA Mars Technology Program 2004-2005
- Elected to AAAI Executive Council April 2004 2004-2007
- Robot Hall of Fame Jury Appointee 2004
- UC Santa Cruz CE Advisory Board Appointee 2004
- Oklahoma Scholar, OSLEP Program 2004
- Reviewer, Swiss National Science Foundation 2004
- Reviewer, Canada Foundation for Innovation Grants 2004
- Chief Scientist, Mobot Robotics 2004-
- Reviewer, European Commission on Future and Emerging Technologies 2003
- Reviewer, Portuguese Science and Technology Foundation 2003
- Reviewer, NASA Intelligent Systems / Automated Reasoning programs 2003
- Guest Editor, Robotics and Autonomous Systems 42 (3-4) 2003
- Review Board member, NASA Autonomy Infusion Working Group 2002
- Director, Robot Education Lab, CMU 2002-
- IAAI Deployed Application Award (BP Scheduling System) 2002
- Invited Visiting Professor, EPFL, Lausanne, Switzerland 2001
- Head, Robotics Institute Master's Program 2001-
- Herbert A. Simon Award for Teaching Excellence in Computer Science 2000
- Invited Reviewer, Portuguese Science and Technology Foundation 2000
- Best Paper in Vision, IEEE Conference on Robotics and Automation 2000
- Subcommittee Chair, SCS Curriculum Committee 2000
- Guest Editor, *Autonomous Robots* 9(1) 2000
- Invited Visiting Professor, EPFL, Lausanne, Switzerland 2000
- Second Place, Event 1 of the AAAI 1999 National Robot Competition 1999
- Invited External Reviewer, Autonomy & Information Management System, NASA 1998
- Editorial Board, Autonomous Robots Special Issue on Integrating Robotics 1998
- Chief Scientist, Blue Pumpkin Software, Inc. 1997-2005
- Robot Contest Advisory Board, The Tech Museum of Innovation 1995-1997
- First Place, Event 1 of the AAAI 1994 National Robot Competition 1994
- First Place, Event 1 of the AAAI 1993 National Robot Competition 1993

Invited Speeches and Authorships

- Invited Speaker, International Conf. on Computational Photography 2011
- Keynote speaker, Technical Association of the Graphic Arts Conference 2011
- Invited Speaker, UC Santa Barbara Institute for Energy Efficiency 2011
- Invited Speaker, Bosch Stuttgart 2011
- Invited Speaker, CRA Conference at Snowbird (for deans & dept. heads) 2010
- Invited Organizer, UN Planning Forum for Technology for Developing World 2010
- Invited Moderator, Fred Forward National Conference on technology 2010
- Invited Speaker, Robotics and Ethics, HRI Osaka 2010
- Keynote speaker, Ellis School 2010
- Invited Speaker, Sprout Fund Making Sparks program 2009

- Invited Attendee, Kavli Frontiers National Academy of Sciences 2009
- Invited Speaker, Presidential Lecture Series, Oklahoma University 2009
- Invited Speaker, University of Pittsburgh Philanthropy Forum 2009
- Invited Speaker, Bournemouth University Public Lecture (Bournemouth, UK) 2009
- Invited Speaker, United Nations International Conference on Education 2008
- Invited Speaker, Moderator, Fred Rogers Center Briefing on Youth & New Media 2008
- Invited Speaker, Digital Imagers Group 2008 2008
- Invited Keynote, AAAI Spring Symposium on Educational Robotics 2008
- Invited Speaker, Inaugural Speech of IEEE Santa Clara Chapter 2007
- Invited Keynote, PERMiS (NIST) 2007
- Invited Keynote, AMIRE 2007 (Buenos Aires, Argentina) 2007
- Invited Speaker, PUGWash 2007 (Pittsburgh, PA) 2007
- Invited Speaker, The World Affairs Council, San Francisco, CA 2006
- Nature Science Foo Camp, Mountain View, CA 2006
- Invited GRASP lab speaker, U. Penn 2006
- Invited Keynote Speaker, ROMAN 2006 (England) 2006
- Invited Plenary Speaker, AMC 2006 (Istanbul) 2006
- Invited Speaker, Boeing Distinguished Researcher and Scholar Seminar 2005
- Invited Speaker, USC Robotics Colloquium 2005
- Invited Speaker, Stanford Work, Technology, Organization Colloquium 2005
- Invited Speaker, ICRA Workshop on Multi-Robot Systems 2005
- Invited Contributor, Oxford Encyclopedia of Science, Technology and Society 2004
- Invited Author, Educational Robotics chapter, Handbook of Robotics (Sp-Verlag) 2004-2005
- Invited Lecture Series, Winter School on Humanoid Robotics (Vision interaction) 2004
- Invited Speaker, ICRA Workshop on Educational Robotics 2004
- Invited Speaker, AAAI Symposium on Educational Robotics 2004
- Invited Speaker, CES IEEE Round Table on Robotics 2004
- Invited Speaker, SUNY Buffalo Media Arts 2003
- Invited Speaker, Workshop on Social Studies of Social Robotics 2003
- Invited Speaker, Evolution Robotics Advisory Board 2003
- Invited Speaker, Intel Xscale Workshop, Portland 2002
- Invited Speaker, Asilomar Microcomputer Workshop 2001, 2002
- Invited Speaker, Performance Optimization in Call Centers 2000
- Invited Speaker, Tomorrow's Technology Today 2000 2000
- Invited Speaker, Stanford Broad Area Colloquium in CS 2000
- Invited Speaker, ICRA Workshop on Personal Robotics 2000
- Invited Lecture Series, XIII Congreso Chileno de Ingenieria Electrica 1999
- Invited Speaker, AI Seminar Series at the NCARAI (NRL) 1998
- Invited Panelist, AAAI Workshop on the Robot Contest 1998
- Invited Speaker, Central Atlantic Orientation and Mobility Conference 1997

Other Professional Activities

- Workshop Organizer, *Teaching with Robots*, RSS 2008 (Zurich, Switz) 2008
- Education Director, NSF Quality of Life Technologies ERC 2006-2008
- Committee, AAAI Robots in Intro to CS, Spring Symposium 2007
- Faculty Affairs Council, Benefits Subcommittee 2005-2006
- Program Committee, ALife 10th Anniversary 2006
- Co-Chair, Human-Robot Interaction workshop, AAAI 2006 Spring Symposium 2006
- Program Committee, AAAI National Conference 2005
- Program Committee, IJCAI 2005
- Program Committee, AAAI Symposium on KR and Ontology for Autonomous Sys. 2004
- Member, Robotics Engineering Task Force (sponsored by Intel Corp.) 2003-2004

- Co-Chair, Robocup Rescue National Competition 2003
- Special Sessions Chair, IROS 2002, Switzerland 2002
- Co-Chair, Social Robotics workshop, IROS 2002, Switzerland 2002
- Head, Robotic Autonomy summer course, CMU West 2002
- Berkman Faculty Development Fund Committee 2001-2003
- Member, PhD Curriculum Committee 2000
- Program Committee, International Conference on Machine Learning 2000
- General Co-Chair & Founder, Workshop on Interactive Robots and Entertainment 2000
- Featured segment, "Natural Born Robots," Scientific American Frontiers 1999
- CORO Center for Civic Leadership, Selection Day Judge 1999 - 2000
- Program Co-Chair, IEEE Int. Symp. on Comput. Intel. in Robotics & Automation 1999
- Committee, Hybrid Systems & AI, AAAI Spring Symposium 1999
- Program Committee, Third International Conference on Autonomous Agents 1999
- Committee, Integrated Planning for Autonomous Agent Architectures, AAAI Fall 1998
- Program Committee, National Conference on Artificial Intelligence 1998
- Committee, Planning in Robot Problems, AAAI Fall Symposium 1998
- Rules Committee, National Robot Competition and Exhibition 1997-1998
- Chair, Planning w/ Incomplete Information for Robot Problems, AAAI Symposium 1996

Patents

- "System and Method for Complex Schedule Generation," US Patent 7,634,422
- "Method and System for concurrent error identification in resource scheduling," US 7,281,173
- "Resilient Leg Design for Hopping, Running and Walking Machines," US Patent 7,270,589
- "System and Method for Complex Schedule Generation," US Patent 7,254,546
- "System and Method for Complex Schedule Generation," US Patent 7,155,399
- "Method and system for concurrent error identification in resource scheduling," US Patent 6,959,405
- "Method and Apparatus for Multi-Contact Scheduling," US Patent 6,952,732
- "Socially Interactive Autonomous Robot (2)," US Patent 6,760,647
- "Energy storage device used in locomotion machine," US Patent 6,558,297
- "Socially Interactive Autonomous Robot," US Patent 6,539,284
- "Agent scheduling system and method having improved post-processing step," US Patent 6,278,978
- "Depth categorization for depth recovery of dynamic scenes," US Patent 5,793,900
- "Deformable and Elastic Tensile-Integrity Structure," US Patent 5,688,604

Other Clients

- Blue Pumpkin Software *Sunnyvale*; Chief Scientist & Founder 1996 - 2005
- Hyperbot, Inc. *Los Altos*; Advisor 1996 - 1998
- Redzone Robotics *Pittsburgh*; Consultant 1997
- Mobot, Inc. *Pittsburgh*; Chief Scientist 1998 - 2000
- Cye Robotics (Aethon, Inc.); Consultant 1998 - 1999
- MGA Entertainment *Los Angeles*; Consultant 1999 - 2000
- Proctor & Gamble *Cincinnati*; Consultant 1999 - 2001
- AT Sciences *Pittsburgh*; Consultant 2001 - 2009
- Mobot Robotics, *Portland*; Chief Scientist 2002 - present
- Witness Systems, *Atlanta*; Principal Scientist 2005 - 2007
- Intel Research; Consultant 2006
- Robodynamics; Advisory Board 2008 - present
- RoBlocks; Advisory Board 2009 - present
- GigaPan LLC; Founder 2009 - present
- Wizbots, Inc; Advisory Board 2010 - present
- DeepLocal 2011

Publications

Journals

"A Summer of Robots: Seeding Creative Robotics Across the Urban Landscape," C. DiSalvo, I. Nourbakhsh, K. Crowley. *Autonomous Robotics*, special issue on Community-Based Robotics. Submitted for 2010.

"Very High-Resolution Panoramic Photography to Improve Conventional Rangeland Monitoring," M. Nichols, G. Ruyle and I. Nourbakhsh. *Rangeland Ecological Management* 62:579-582, November 2009.

"Working with a robot: Exploring relationship potential in human-robot systems," D. Bernstein, K. Crowley, I. Nourbakhsh. *Interaction Studies* Special issue on Psychological Benchmarks of Human-Robot Interaction. pp. 465-482. Volume 8, Issue 3, 2007. John Benjamins Publishing.

"Mapping disaster zones," I. Nourbakhsh, R. Sargent, A. Wright, K. Cramer, B. McClendon, M. Jones. *Nature* (439) pp. 787-8. Reviewed Commentary. 16 February 2006.

"The Personal Exploration Rover: educational assessment of a robotic exhibit for informal learning venues," I. Nourbakhsh, E. Hamner, D. Bernstein, K. Crowley, E. Ayoob, M. Lotter, S. Shelly, T. Hsiu, E. Porter, B. Dunlavy, D. Clancy. *International Journal of Engineering Education*, Special Issue: Trends in Robotics Education, Vol. 22, No. 4, pp 777-791, 2006.

"The Robotic Autonomy Mobile Robotics Course: Robot Design, Curriculum Design and Educational Assessment," I. Nourbakhsh, K. Crowley, A. Bhave, E. Hamner, T. Hsiu, A. Perez-Bergquist, S. Richards, K. Wilkinson. *Autonomous Robots Journal*, 18 (1), January 2005.

"The Smart Wheelchair Component System," R. Simpson, E. LoPresti, S. Hayashi, I. Nourbakhsh and D. Miller. *Journal of Rehabilitation Research and Development*, 41(3B), May/June 2004.

"The Personal Rover Project: The comprehensive design of a domestic personal robot," Emily Falcone, Rachel Gockley, Eric Porter and Illah Nourbakhsh. *Robotics and Autonomous Systems*, Special Issue on Socially Interactive Robots, 42(3-4), 2003.

"A Survey of socially interactive robots," Terry Fong, Illah Nourbakhsh and Kerstin Dautenhahn. *Robotics and Autonomous Systems*, Special Issue on Socially Interactive Robots, 42(3-4), 2003.

"Hybrid Simultaneous Map-Building: A Natural Integration of Topological and Metric," Nicola Tomatis, Illah Nourbakhsh and Roland Siegwart. *Robotics and Autonomous Systems*. 2003.

"Insect Telepresence: Using robotic tele-embodiment to bring insects face-to-face with humans," Stacy All and Illah Nourbakhsh. *Autonomous Robots*, special issue on Personal Robotics, 10, pp 149-161. 2000.

"An Affective Mobile Educator with a Full-time Job," Illah Nourbakhsh, Judith Bobenage, Sebastien Grange, Ron Lutz, Roland Meyer and Alvaro Soto. *Artificial Intelligence Journal*. 114 (1-2), pp. 95-124. October 1999.

"Automatic Mapping of Dynamic Office Environments," Clayton Kunz, Thomas Willeke and Illah Nourbakhsh. *Autonomous Robots Journal*, 7:2, 1999.

"Mobile Robot Obstacle Avoidance via Depth from Focus," Illah Nourbakhsh, David Andre, Carlo Tomasi and Michael Genesereth. *Robotics and Autonomous Systems*, 22:151-158. 1997.

"Assumptive Planning and Execution: a Simple, Working Robot Architecture," Illah Nourbakhsh and Michael Genesereth. *Autonomous Robots Journal*, 3(1), pp. 49-67, 1996.

"Methods and Algorithms for Statistical Analysis of Protein Sequences," Volker Brendel, Philip Bucher, Illah Nourbakhsh, Edwin Blaisdell and Samuel Karlin. *Proceedings of the National Academy of Sciences of the United States of America*, 89(6), 1992.

Books and Chapters

The Rhetoric of Robotics, I. Nourbakhsh. Chapter in *Robot Ethics: The Ethical and Social Implications of Robotics*, eds. Patrick Lin, George Bekey, and Keith Abney (Cambridge: MIT Press, forthcoming in 2010).

Educational Robotics, I. Nourbakhsh, D. Miller and R. Siegwart. Chapter in *The Robotics Handbook* (Springer-Verlag). Invited author, in process est. 2007.

Astronauts, Robonauts and the Moon. I. Nourbakhsh. Chapter in *Star Wars: Where Science Meets Imagination*. ed. Ed Rodley (Museum of Science, Boston and National Geographic Society). 2005.

Social Robotics, I. Nourbakhsh. Chapter/entry in *The Oxford Encyclopedia of Science, Technology and Society* (Oxford University Press). Invited author, 2005.

Introduction to Autonomous Mobile Robots, R. Siegwart and I. Nourbakhsh. MIT Press. March, 2004.

Dervish. *Artificial Intelligence and Mobile Robots*, Chapter 3. David Kortenkamp, R. Peter Bonasso, and Robin Murphy, eds. AAAI Press/ The MIT Press, 1998.

Interleaving Planning and Execution for Autonomous Robots, Illah Nourbakhsh. Kluwer Academic Publishers, 1997.

Other Publications

"Designing the Finch: Creating a Robot Aligned to Computer Science Concepts," Tom Lauwers & Illah Nourbakhsh. Accepted, in print, *Educational Advances in Artificial Intelligence*, 2010.

"GigaPixels for Science," Illah Nourbakhsh. Invited robotics column. In *IEEE Robotics and Autonomous Systems*. In print. June 2010.

"A Strategy for Collaborative Outreach: Lessons from the CSBots Project," Tom Lauwers, Emily Hamner, Illah Nourbakhsh. In *Proceedings of SIGCSE*. March 2010.

"GigaPan Conversations: Diversity and Inclusion in the Community," Illah Nourbakhsh, Clementina Acedo, Randy Sargent, Christopher Strebel, Laura Tomokiyo, Carolina Belalcazar. In *Proceedings of International Scientific Conference on Technology for Development*, United Nations, Lausanne, Switzerland 2010.

"Very High Resolution Panoramic Images in Research Based Community Outreach," Mary Nichols, Jeff Schalaus, George Ruyle, Illah Nourbakhsh. In *Proceedings of the ANREP Rangelands Conference*. Fairbanks, Alaska, 2010.

"Robot Diaries: Creative Technology Fluency for Middle School Girls," Nourbakhsh, I. Invited educational robotics column. In *IEEE Robotics and Autonomous Systems*. 2009.

"CSbots: Design and Deployment of a Robot Designed for the CS1 Classroom," Lauwers, T., Nourbakhsh, I. In *Proceedings of SIGCSE 2009*.

"The Neighborhood Networks Projects: A Case Study of Critical Engagement and Creative Expression Through Participatory Design," DiSalvo, C., Nourbakhsh, I., Holstius, D., Akin, A., Louw, M. In *Proceedings of the 2008 Participatory Design Conference*. Bloomington, Indiana. 2008.

- “Planning for Human-Robot Interaction using Time-State Aggregated POMDPs,” Broz, F., Nourbakhsh, I., Simmons, R. In *Proceedings of NCAI AAAI 2008*, Menlo Park, CA.
- “Using a Robot Proxy to Create Common Ground in Exploration Tasks,” Stubbs, K., Wettergreen, D., Nourbakhsh, I. In *Proceedings of HRI 2008*, Amsterdam, Netherlands.
- “Robot Diaries: Broadening Participation in the Computer Science Pipeline through Social Technical Exploration,” Hamner, E., Lauwers, T., Bernstein, D., Nourbakhsh, I., DiSalvo, C. In *Proceedings of the AAAI Spring Symposium on Using AI to Motivate Greater Participation in Computer Science*. Stanford, California, 2008.
- “Robot Diaries interim project report: Development of a technology program for middle school girls,” Hamner, E., Lauwers, T., Bernstein, D., Stubbs, K., Crowley, K. & Nourbakhsh, I. Carnegie Mellon University Technical Report CMU-RI-TR-08-25. 2008.
- Iterative Design of a Robot-Centered Curriculum for the Introduction to Computer Science Course,” Lauwers, T., Nourbakhsh, I. In *Proceedings of the AAAI Spring Symposium on Using AI to Motivate Greater Participation in Computer Science*. Stanford, California, 2008.
- Informing Curricular Design by Surveying CS1 Educators,” Lauwers, T., Nourbakhsh, I. In *Proceedings of the 4th International Symposium on Autonomous Minirobots for Research and Edutainment*. Buenos Aires, Argentina, October 2007.
- TeRK: A Flexible Tool for Science and Technology Education,” Nourbakhsh, I., Hamner, E., Lauwers, T., DiSalvo, C., Bernstein, D. In *Proceedings of the AAAI Spring Symposium on Robots and Robot Venues*. Stanford, CA 2007.
- “A Roadmap for Technology Literacy and a Vehicle for Getting There: Educational Robotics and the TeRK Project,” Nourbakhsh, I., Hamner, E., Lauwers, T., Bernstein, D., DiSalvo, C. In *Proceedings of RO-MAN 2006*, Hertfordshire, England.
- “Cognitive Evaluation of Human-Robot Systems (CEHS): A Method for Analyzing Cognitive Change in Human-Robot Systems,” Stubbs, K., Bernstein, D., Crowley, K., Nourbakhsh, I. In *proceedings, IEEE RO-MAN 2006*, Hertfordshire, England.
- “Constraint Optimization Coordination Architecture for Search and Rescue Robotics,” Koes, M., Nourbakhsh, I., Sycara, K. In *Proceedings of ICRA 2006*.
- “A Constraint Optimization Framework for Fractured Robot Teams,” Koes, M., Sycara, K., Nourbakhsh, I. In *Proceedings of the Fifth International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS) 2006*.
- “Best Laid Plans of Robots and Men,” Koes, M., Sycara, K., Nourbakhsh, I. In *Proceedings of AAAI Spring Symposium on Distributed Plan and Schedule Management*. AAAI Press. March, 2006.
- “A Preliminary Study of Peer-to-Peer Human-Robot Interaction,” Fong, Scholtz, Shah, Fluckiger, Kunz, Lees, Schreiner, Siegel, Hiatt, Nourbakhsh, Simmons, Ambrose, Burridge, Antonishek, Bugajska, Schultz, Trafton. In *Proceedings of IEEE SMC 2006*.
- “On the Study of Human-Robot Collaboration,” Nourbakhsh, I. 2006. Invited Paper at AMC 2006 Istanbul, Turkey.
- “A Survey of Computer Science Instructors and Textbooks,” Lauwers, T., Nourbakhsh, I., and Hamner, E. 2006. *Poster and Birds of a Feather Session at SIGCSE 2006*.
- “Mobile Robot Programming in Education,” Lalonde, J., Bartley, C., and Nourbakhsh, I. 2006. In *Proceedings of ICRA 2006*.

“The Peer-to-Peer Human-Robot Interaction Project,” Fong, T., Nourbakhsh, I., Ambrose, R., Simmons, R., Schultz, A., and Scholtz, J. 2005. In *Proceedings of AIAA Space 2005*, AIAA-2005-6750, Long Beach, CA.

“Heterogeneous Multirobot Coordination with Spatial and Temporal Constraints,” M. Koes, I Nourbakhsh, K. Sycara. Accepted by *AAAI 2005*.

“Long-term Human-Robot Interaction,” K. Stubbs, D. Bernstein, K. Crowley, I. Nourbakhsh. Accepted by *AIED 2005*.

“Human-Robot Teaming for Search and Rescue: A facility for integrated testing of an agent-based rescue system in both simulated and real-world environments,” I. Nourbakhsh, M. Lewis, K. Sycara, M. Koes, M. Yong and S. Burion. *IEEE Pervasive Computing*, 2005.

“Interaction Challenges in Human Robot Space Exploration,” T. Fong, I. Nourbakhsh. Invited article for *ACM Interactions* special issue on human-robot interaction, 2005.

“Up Close and Personal from Mars,” E. Hamner, M. Lotter, I. Nourbakhsh, S. Shelly. Invited article for *ACM Interactions* special issue on human-robot interaction, 2005.

“The Design of a Highly Reliable Robot for Unmediated Museum Interaction,” I. Nourbakhsh, E. Hamner, E. Porter, B. Dunlavey, E. Ayoob, T. Hsiu, M. Lotter and S. Shelly. Accepted by *ICRA 2005*.

“Educational Results of the Personal Exploration Rover Museum Exhibit,” I. Nourbakhsh, E. Hamner, B. Dunlavey, D. Bernstein and K. Crowley. Accepted by *ICRA 2005*.

“A Robust Visual Odometry and Precipice Detection System using Consumer-grade Monocular Vision,” J. Campbell, R. Sukthankar, I. Nourbakhsh and A. Pahwa. In *Proceedings, ICRA 2005*.

“Parents, Docents and Robots: Examining mediation at the personal exploration rover exhibit,” D. Bernstein, K. Crowley, I. Nourbakhsh, E. Hamner, K. Stubbs. Poster presentation at *ASTC 2004*.

“Techniques for Evaluating Optical Flow for Visual Odometry in Extreme Terrain,” J. Campbell, R. Sukthankar, I. Nourbakhsh. In *Proceedings of IROS 2004*. In print.

“Communication Efficiency in Multi-agent Systems,” M. Berna-Koes, I. Nourbakhsh, K. Sycara. In *Proceedings of ICRA 2004*. New Orleans, 2004.

“Low Overhead Manipulation of Bound Book Pages,” J. Young, I. Nourbakhsh. In *Proceedings of ICRA 2004*. New Orleans, 2004.

“Formal Measures of Learning in a Secondary School Mobile Robotics Course,” I. Nourbakhsh, E. Hamner, K. Crowley, K. Wilkinson. In *Proceedings of ICRA 2004*. New Orleans, 2004.

“Designing a Low-cost, Expressive Educational Robot,” T. Hsiu, S. Richards, A. Bhave, A. Perez-Bergquist and I. Nourbakhsh. In *Proceedings of IROS 2003*. Las Vegas, 2003.

“A Survey of Space Robotics,” L. Pedersen, D. Kortenkamp, D. Wettergreen and I. Nourbakhsh. In *Proceedings of the 7th International Symposium on Artificial Intelligence, Robotics and Automation in Space*, 2003.

“Developing a Testbed for Studying Human-Robot Interaction in Urban Search and Rescue,” M. Lewis, K. Sycara and I. Nourbakhsh. In *Proceedings of HCI 2003*. June 2003, Crete.

“The Educational Impact of the Robotics Autonomy mobile robotics course,” I. Nourbakhsh, K. Crowley, K. Wilkinson, E. Hamner. CMU Technical Report CMU-RI-TR-03-29. August 2003.

“The Robot Museum Robot Installations: a five-year experiment,” I. Nourbakhsh, C. Kunz and T. Willeke. In *Proceedings of IROS 2003*. Las Vegas, 2003.

“The Design of the Smart Wheelchair Component System,” E. LoPresti, R. Simpson, S. Hayashi, I. Nourbakhsh and D. Miller. In *Proceedings of the 26th Annual Conference on Rehabilitation Engineering (RESNA)*, Atlanta, GA, June 2003.

“An Inexpensive Alternative Drop-off Detection Solution,” S. Hayashi, E. LoPresti, R. Simpson, I. Nourbakhsh and D. Miller. In *Proceedings of the 26th Annual Conference on Rehabilitation Engineering (RESNA)*, Atlanta, GA, June 2003.

“Staff Scheduling for Inbound Call Centers and Contact Centers,” Alex Fukunaga, Ed Hamilton, David Andre, Ofer Matan, Jason Fama and Illah Nourbakhsh. *AI Magazine*, 23(4). Winter 2002.

“A survey of socially interactive robots,” T. Fong, I. Nourbakhsh, K. Dautenhahn. Technical Report CMU-RI-TR-03-29, Robotics Institute, Carnegie Mellon University, 2002.

“Evaluation of Sensors for a Smart Wheelchair,” E.F. LoPresti, R.C. Simpson, D. Miller, I. Nourbakhsh. In *Proceedings of the RESNA 2002 Annual Conference*. June 2002.

“Learning Probabilistic Models for State Tracking of Mobile Robots,” Daniel Nikovski, Illah Nourbakhsh. In *Proceedings of IROS-2002*. Lausanne, Switzerland.

“Learning Probabilistic Models for Optimal Visual Servo Control of Dynamic Manipulation,” Daniel Nikovski, Illah Nourbakhsh. In *Proceedings of IROS-2002*. Lausanne, Switzerland.

“A Low Cost Embedded Color Vision System,” Anthony Rowe, Charles Rosenberg, Illah Nourbakhsh. In *Proceedings of IROS-2002*. Lausanne, Switzerland.

“Staff Scheduling for Inbound Call Centers,” Alex Fukunaga, Edward Hamilton, David Andre, Ofer Matan, Jason Fama, Illah Nourbakhsh. In *Proceedings of IAAI 2002*. September 2002.

“The Role of Expressiveness and Attention in Human-Robot Interaction,” Allison Bruce, Illah Nourbakhsh, Reid Simmons. In *Proceedings of ICRA 2002*. April 2002.

“Hybrid simultaneous localization and map building: closing the loop with multi-hypothesis tracking,” Nicola Tomatis, Illah Nourbakhsh, Roland Siegwart. In *Proceedings of ICRA 2002*. April 2002.

“A simple low-cost color vision system,” Anthony Rowe, Charles Rosenberg, Illah Nourbakhsh. In *Tech Sketches of CVPR 2001*. Hawaii, December 2001.

“Narrative-level visual interpretation of human motion for human-robot interaction,” Adrian Hilti, Illah Nourbakhsh, Bjorn Jensen, Roland Siegwart. In *Proceedings of IROS 2001*. Maui, Hawaii, October 29 - November 3, 2001.

“Simultaneous localization and map-building: a global topological model with local metric maps,” Nicola Tomatis, Illah Nourbakhsh and Roland Siegwart. In *Proceedings of IROS 2001*. Maui, Hawaii, October 29 - November 3, 2001.

“The Role of Expressiveness and Attention in Human-Robot Interaction,” Allison Bruce, Illah Nourbakhsh and Reid Simmons. In *Proceedings, AAAI Fall Symposium*. 2001.

“Combining Topological and Metric: A Natural Integration for Simultaneous Localization and Map Building,” Nicola Tomatis, Illah Nourbakhsh and Roland Siegwart. In *Proceedings of the Fourth European Workshop on Advanced Mobile Robots (Eurobot 2001)*. Lund, Sweden, September 19-21, 2001.

"The history of the Mobot museum robot series: An evolutionary study," Thomas Willeke, Clay Kunz and Illah Nourbakhsh. In *Proceedings of FLAIRS 2001*. Florida, USA. 2001.

"A hybrid approach for robust and precise mobile robot navigation with compact environment modeling," Nicola Tomatis, Illah Nourbakhsh, Kai Arras and Roland Siegwart. In *Proceedings of ICRA 2001*. Korea. 2001.

"Deriving and matching image fingerprint sequences for mobile robot localization," Pierre Lamon, Illah Nourbakhsh, Bjorn Jensen and Roland Siegwart. In *Proceedings of ICRA 2001*. Korea. 2001.

"Learning State Grounding for Optimal Visual Servocontrol of Dynamic Manipulation," Daniel Nikovski and Illah Nourbakhsh. In *Proceedings of the AAAI Spring Symposium on State Grounding and Abstraction*. Stanford, CA. 2001.

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