

Michael A. Goodrich
Curriculum Vitae

Computer Science Department
Brigham Young University
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Experience

2010 – present	<i>Professor</i>	Computer Science Department Brigham Young University
2004 – 2010	<i>Associate Professor</i>	Computer Science Department Brigham Young University
May 08 – July 08	<i>Visiting Research Fellow</i>	Adaptive Systems Research Group University of Hertfordshire
1999-2004	<i>Assistant Professor</i>	Computer Science Department Brigham Young University
1998-1999	<i>Research Assistant Professor</i>	Computer Science Department Brigham Young University
1996-1998	<i>Research Associate</i>	Nissan Cambridge Basic Research Cambridge, MA, USA

Education

Ph.D.	1996	Electrical and Computer Engineering	Brigham Young University
M.S.	1995	Electrical and Computer Engineering	Brigham Young University
B.S.	1992	Electrical and Computer Engineering	Brigham Young University

Grants and Gifts (since 1998)

Sept 10 – Dec 12	ARL: Temporal Latency in Autonomous Systems	\$ 49,950
Jan 11 – Dec 12	Honda: Assistive Robotics for Children with SLI & Autism	\$50,000
July 10 – June 14	ARL sub to UCF: Robotics CTA, Human Interaction with Robot Teams	\$575,825
June 09 – April 13	ONR sub to CMU: Cognitively Compliant Command for Multirobot Teams	\$583,753
Nov 08 – Oct 09	Honda: Assistive Robotics for Children with SLI & Autism	\$50,000
Sept 08 – Aug 11	NSF: Technology-Supported Wilderness Search and Rescue	\$446,784
Nov 07 – Dec 08	ARL: Framework for Adjustable Autonomy	\$40,743
Apr 07 – Apr 08	ARL: Managing Workload Peaks in Collaborative Teams	\$43,868
December 06	LUEBEC: Steering Entropy Analysis	\$15,000
Dec 05 – Nov 08	NSF: UAV-Enabled Wilderness Search and Rescue	\$525,426
Nov 05 – June 08	Utah Center of Excellence: UAVs	\$72,000
Mar 05 – Mar 06	ARL: Human-Robot Teaming	\$49,819
June 05 – June 06	INL: Interfaces for Ground Robots	\$23,147
July 02 – June 04	DARPA Contract: Adjustable Interaction	\$1,150,000
June 03 – May 04	Nissan Contract: Learning Force Feedback	\$60,000
June 02	Nissan Gift: Multi-Tasking While Driving	\$45,000
June 01 – May 02	DARPA Contract: CyberTeams	\$193,773
Fall 99	Nissan Gift: ACC Analysis continued	\$9,000
Fall 98	Nissan Gift: ACC Analysis	\$9,000
Total		\$3,993,088

Publications

Journal Publications (Peer Reviewed)

- L. Lin and M. A. Goodrich. A Bayesian Approach to Modeling Lost Person Behaviors Based on Terrain Features in Wilderness Search and Rescue. In *Computational and Mathematical Organization Theory*, 16(3), pp 200-323, 2010.
- J. W. Crandall and M. A. Goodrich, Learning to Compete, Coordinate, and Cooperate in Repeated Games Using Reinforcement Learning. *Machine Learning Journal*, May 2010.
- M. A. Goodrich, B. S. Morse, C. Engh, J. L. Cooper, and J. A. Adams. Towards using Unmanned Aerial Vehicles (UAVs) in Wilderness Search and Rescue: Lessons from field trials. *Interaction Studies*, 10(3), pp 455-481, 2009.
- J. A. Adams, C. Humphrey, M. A. Goodrich, J. L. Cooper, B. S. Morse, C. Engh and N. Rasmussen. Cognitive Task Analysis for Developing UAV Wilderness Search Support. To appear in *Journal of Cognitive Engineering and Decision Making*.
- J. Dinerstein, P. Egbert, D. Ventura, and M. A. Goodrich. Data-Driven Programming and Behavior for Autonomous Virtual Characters. To appear in *Computational Intelligence*.
- M. A. Goodrich and A. C. Schultz. Human-Robot Interaction: A Survey. *Foundations and Trends in Human-Computer Interaction*, 1(3), 2007, pp 203-275.
- M. A. Goodrich, B. S. Morse, Damon Gerhardt, J. L. Cooper, M. Quigley, J. A. Adams, and C. Humphrey. Supporting Wilderness Search and Rescue using a Camera-Equipped Mini UAV. *Journal of Field Robotics*, 25 (1-2), pp89-110, 2008.
- C. W. Nielsen, M. A. Goodrich, and B. Ricks. Ecological Interfaces for Improving Mobile Robot Teleoperation. *IEEE Transactions on Robotics and Automation*, 23(5), pp. 927-941, October 2007.
- J. K. Howlett, T. W. McLain, and M. A. Goodrich. Learning Real-Time A* Path Planner for Unmanned Air Vehicle Target Sensing. *AIAA Journal of Aerospace Computing, Information, and Communication*, 3(3), pp. 108-122, March 2006.
- J. W. Crandall, M. A. Goodrich, D. R. Olsen, and C. W. Nielsen. Validating Human-Robot Interaction Schemes in Multi-Tasking Environments. *IEEE Transactions on Systems, Man, and Cybernetics —Part A: Systems and Humans*, 35(4), July 2005, pp.438-449. Special Issue on Human-Robot Interaction.
- R. Beard, D. Kingston, M. Quigley, D. Snyder, R. Christiansen, W. Johnson, T. McLain, M. A. Goodrich, Autonomous Vehicle Technologies for Small Fixed Wing UAVs. *AIAA Journal of Aerospace Computing, Information, and Communication*, 2(1), Jan 2005, pp 92-108.
- M. A. Goodrich and E. R. Boer. Model-Based Human-Centered Task Automation: A Case Study in ACC Design. *IEEE Transactions on Systems, Man, and Cybernetics --- Part A: Systems and Humans*, 33(3), 325-336, May 2003.
- R. W. Beard, T. W. McLain, M. A. Goodrich, and E. P. Anderson. Coordinated Target Assignment and Intercept for Unmanned Air Vehicles. *IEEE Transactions on Robotics and Automation*, 18(6), December 2002, pp911-922.

- W. C. Stirling, M. A. Goodrich, and D. J. Packard. Satisficing Equilibria: A Non-Classical Approach to Games and Decisions. *Autonomous Agents and Multi-Agent Systems Journal*, 5, pp. 305-328, 2002.
- M. A. Goodrich and E. R. Boer. Designing Human-Centered Automation: Tradeoffs in Collision Avoidance System Design. *IEEE Transactions on Intelligent Transportation Systems*, 1(1), March 2000.
- M. A. Goodrich, W. C. Stirling, and E. R. Boer. Satisficing Revisited. *Minds and Machines*, 10(1), pp. 79-109, February 2000.
- M. A. Goodrich, W. C. Stirling, and R. L. Frost. Model Predictive Satisficing Fuzzy Logic Control. *IEEE Transactions on Fuzzy Systems* 7(3), pp.319-322, June 1999.
- W. C. Stirling and M. A. Goodrich. Satisficing Games. *Information Sciences*, 114, pp.255-280, March 1999.
- M. A. Goodrich, W. C. Stirling, and R. L. Frost. A Theory of Satisficing Decisions and Control. *IEEE Transactions on Systems, Man, and Cybernetics --- Part A: Systems and Humans*, 28(6):763-779, November 1998
- W. C. Stirling and M. A. Goodrich and R. L. Frost. Procedurally Rational Decision-Making and Control. *IEEE Control Systems Magazine*, 16(5):66-75, October 1996.

Conference Publications (Peer Reviewed)

- D. J. Ricks, M. B. Colton, and M. A. Goodrich. Design and Evaluation of a Clinical Upper-Body Humanoid Robot for Autism Therapy. In Proceedings of the *2010 International Conference on Applied Bionics and Biomechanics*, Venice, Italy, October 14-16, 2010.
- N. Giullian, D. Ricks, A. Atherton, M. Colton, M. Goodrich, and B. Brinton. Detailed Requirements for Robots in Autism Therapy. In Proceedings of the *IEEE International Conference on Systems, Man, and Cybernetics*, Istanbul, Turkey, October, 2010.
- J. M. Whetten, M. A. Goodrich, and Y. Guo. Beyond Fan-Out: Towards Multi-Operator Supervisory Control . In Proceedings of the *IEEE International Conference on Systems, Man, and Cybernetics*, Istanbul, Turkey, October, 2010.
- L. Lin, M. Roscheck, M. A. Goodrich, and B. S. Morse. Supporting Wilderness Search and Rescue with Integrated Intelligence: Autonomy and Information at the Right Time and the Right Place. In Proceedings of the *Twenty-Fourth AAAI Conference on Artificial Intelligence, Special Track on Integrated Intelligence*. Atlanta, Georgia, USA, July, 2010.
- B. S. Morse, C. H. Engh, and M. A. Goodrich. UAV Video Coverage Quality Maps and Prioritized Indexing for Wilderness Search and Rescue. In *Proceedings of the 5th ACM/IEEE RAS International Conference on Human-Robot Interaction*. Osaka, Japan, March 2010.
- N. Rasmussen, B. Morse, M. Goodrich, and D. Eggett, Fused Visible and Infrared Video for Use in Wilderness Search and Rescue, *Proceedings of the IEEE Workshop on Applications of Computer Vision (WACV)*, 2009.
- L. Lin and M. A. Goodrich. UAV Intelligent Path Planning for Wilderness Search and Rescue, *Proceedings of IEEE/RSJ International Conference on Intelligent Robots and Systems*. Oct, 2009 St. Louis, Missouri, USA.
- M. B. Colton, D. J. Ricks, M. A. Goodrich, B. Dariush, K. Fujimura, and M. Fujiki. Toward Therapist-in-the-Loop Assistive Robotics for Children with Autism and Specific Language Impairment. *AISB 2009 Symposium on New*

- Frontiers in Human-Robot Interaction* . April 8-9, 2009, Edinburgh, Scotland.
- L. Lin and M. A. Goodrich. A Bayesian Approach to Modeling Lost Person Behaviors Based on Terrain Features in Wilderness Search and Rescue. *Proceedings of the 18th Conference on Behavior Representation in Modeling and Simulation*. Sundance, UT, USA. March 31-April 2, 2009. pp. 49-56.
 - B. Hardin and M. A. Goodrich. [On Using Mixed-Initiative Control: A Perspective for Managing Large-Scale Robotic Teams](#). *Proceedings of ACM/IEEE International Conference on Human-Robot Interaction*. March, 2009. San Diego, California
 - J. W. Crandall, M. A. Goodrich, and L. Lin. [Encoding Intelligent Agents for Uncertain, Unknown, and Dynamic Tasks: From Programming to Interactive Artificial Learning](#). In *Proceedings of AAAI Spring Symposium: Agents that Learn from Human Teachers*. March, 2009. Stanford, California
 - J. Jackson, T. McLain, and M. Goodrich. Image Resolution-based Path Planning and Metrics for Exhaustive Area Search from Small UAVs *AIAA Infotech@Aerospace Conference*, April 2009, Seattle, WA.
 - Jackson, J., McLain, T., and Goodrich, M. Design and Implementation of a Panoramic Video System from Multiple Cameras aboard a Small UAV, *AIAA Infotech@Aerospace Conference*, April 2009, Seattle, WA. B. S. Morse, D. Gerhardt, C. Engh, M. A. Goodrich, N. Rasmussen, D. Thornton, and D. Eggett. Application and Evaluation of Spatiotemporal Enhancement of Live Aerial Video using Temporally Local Mosaics. *Proceedings of CVPR 2008: IEEE Computer Society Conference on Computer Vision and Pattern Recognition*, June 2008, Anchorage, Alaska.
 - J. Cooper and M. A. Goodrich. Towards Combining UAV and Sensor Operator Roles in UAV-Enabled Visual Search. *Proceedings of ACM/IEEE International Conference on Human-Robot Interaction*, March 2008, Amsterdam, The Netherlands.
 - M. A. Goodrich, J. L. Cooper, J. A. Adams, C. Humphrey, R. Zeeman, and Brian G. Buss. Using a Mini-UAV to Support Wilderness Search and Rescue Practices for Human-Robot Teaming. In *Proceedings of the IEEE International Conference on Safety, Security and Rescue Robotics*, Rome, Italy, September 27-29, 2007.
 - M. A. Goodrich, T. W. McLain, J. W. Crandall, J. D. Anderson, and J. Sun. Managing Autonomy in Robot Teams: Observations from Four Experiments. *Proceedings of the ACM/IEEE International Conference Human-Robot Interaction*, March 2007, Washington, D. C.
 - C. W. Nielsen and M. A. Goodrich. Testing the Usefulness of a Pan-Tilt-Zoom (PTZ) Camera in Human-Robot Interaction. In *Proceedings of the Human Factors and Ergonomics Society 50th Annual Meeting*. San Francisco, October 16-20, 2006.
 - J. L. Drury, J. Richer, N. Rackliffe, and M. A. Goodrich. Comparing Situation Awareness for Two Unmanned Aerial Vehicle Human Interface Approaches. In *Proceedings of the IEEE International Workshop on Safety, Security and Rescue Robotics (SSRR)*. Gaithersburg, MD, USA. August 22-24, 2006.
 - C. W. Nielsen and M. A. Goodrich. Comparing the Usefulness of Video and Map Information in Navigation Tasks. In *Proceedings of the 2006 Human-Robot Interaction Conference*. Salt Lake City, Utah, March 2-4, 2006.
 - A. Steinfeld, T. Fong, D. Kaber, M. Lewis, J. Scholtz, A. Scholtz, and M. Goodrich. Common Metrics for Human-Robot Interaction. In *Proceedings of the*

2006 Human-Robot Interaction Conference. Salt Lake City, Utah, March 2-4, 2006.

- Q. Duan, C. Knutson, and M. A. Goodrich. Axiomatic Multi-Transport Bargaining: A Quantitative Method for Dynamic Transport Selection in Heterogeneous Multi-Transport Wireless Environments. *Proceedings of the 2006 IEEE Wireless Communications and Networking Conference*.
- J. W. Crandall and M. A. Goodrich. Learning to Compete, Compromise, and Cooperate in Repeated General-Sum Games. *Proceedings of the 2005 International Conference on Machine Learning*. Bonn, Germany, August 7-11.
- M. Quigley, B. Barber, S. Griffiths, and M. A. Goodrich. Towards Real-World Searching with Fixed-Wing Mini-UAVs. *Proceedings of the 2005 IEEE/RSJ International Conference on Intelligent Robots and Systems*. Edmonton, Alberta, Canada. August 2-6.
- C. W. Nielsen, M. A. Goodrich, and R. J. Rupper. Towards Facilitating the Use of a Pan-Tilt Camera on a Mobile Robot. *Proceedings of IEEE International Workshop on Robots and Human Interactive Communications*. Nashville, TN. 2005.
- M. A. Goodrich, R. J. Rupper, and C. W. Nielsen. Perceiving Head, Shoulders, Eyes and Toes in Augmented Virtuality Interfaces for Mobile Robots. *Proceedings of IEEE International Workshop on Robots and Human Interactive Communications*. Nashville, TN. 2005.
- E. R. Boer, M. E. Rakauskas, N. J. Ward, and M. A. Goodrich. Steering Entropy Revisited. *Proceedings of the Third International Driving Symposium on Human Factors in Driver Assessment, Training and Vehicle Design*. June 27-30, 2005. Rockport, Maine.
- M. Quigley, M.A. Goodrich, S. Griffiths, A. Eldredge, and R.W. Beard. Target Acquisition, Localization, and Surveillance using a Fixed-Wing, Mini-UAV and Gimbaled Camera. *Proceedings of ICRA 2005*, April 18-22, 2005, Barcelona, Spain.
- M. A. Goodrich, M. Quigley, and K. Cosenzo. Task Switching and Multi-Robot Teams. *Proceedings of the Third International Multi-Robot Systems Workshop*, March 14-16, 2005, Washington, DC.
- M. A. Goodrich and M. Quigley. Satisficing Q-Learning: Efficient Learning in Problems with Dichotomous Attributes. *Proceedings of ICML-A 2004*, December 16-18, 2004, Louisville, Kentucky. Winner of best paper award.
- B. Ricks, C. W. Nielsen, and M. A. Goodrich. Ecological Displays for Robot Interaction: A New Perspective. *Proceedings of IROS 2004*. Sept 28-Oct 2, 2004, Sendai, Japan.
- M. Quigley, M. A. Goodrich, and R. W. Beard. Semi-Autonomous Human-UAV Interfaces for Fixed-Wing Mini-UAVs. *Proceedings of IROS 2004*. Sept 28-Oct 2, 2004, Sendai, Japan.
- H. R. Duffin, C. D. Knutson, and M. A. Goodrich. Prioritized Soft Constraint Satisfaction: A Qualitative Method for Dynamic Transport Selection in Heterogeneous Wireless Environments. *Proceedings of the IEEE Wireless Communication and Networking Conference (WCNC 2004)*, Atlanta, Georgia, March 21-25, 2004.

- J. L. Stimpson and M. A. Goodrich. Learning To Cooperate in a Social Dilemma: A Satisficing Approach to Bargaining. *ICML 2003 Proceedings*. Washington D.C., USA, August 2003.
- J. Howlett, M. A. Goodrich, and T. McLain. Learning Real-Time A* Path Planner for Sensing Closely-Spaced Targets from an Aircraft. *Proceedings of the AIAA Guidance, Navigation, and Control Conference*, Austin, Texas, August 11-14, 2003.
- C. N. Nielsen, M. A. Goodrich, and J. W. Crandall, Experiments in Human-Robot Teams. In proceedings of the *2002 NRL Workshop on Multi-Robot Systems*, Available in Eds. A. C. Schultz and L. E. Parker, *MultiRobot Teams: From Swarms to Intelligent Automata*. Volume 2, 2003, Kluwer Academic Publisher.
- C. N. Nielsen, M. A. Goodrich, and J. W. Crandall, Experiments in Human-Robot Teams. In proceedings of the *2002 NRL Workshop on Multi-Robot Systems*. Available in Eds. A. C. Schultz and L. E. Parker, *MultiRobot Teams: From Swarms to Intelligent Automata*. Volume 2, 2003, Kluwer Academic Publisher.
- J. W. Crandall and M. A. Goodrich, Characterizing Efficiency of Human Robot Interaction: A Case Study of Shared-Control Teleoperation. *Proceedings of the 2002 IEEE/RSJ International Conference on Intelligent Robots and Systems*.
- T. J. Palmer and M. A. Goodrich, Satisficing Anytime Action Search for Behavior-Based Voting. *Proceedings of the 2002 International Conference on Robotics and Automation*. 11-15 May 2002, pages 1013-1018, vol. 1.
- R. W. Beard, T. W. McLain, and M. A. Goodrich. Coordinated Target Assignment and Intercept for Unmanned Air Vehicles. *Proceedings International Conference on Robotics and Automation*, 2002.
- J. L. Stimpson, M. A. Goodrich, and L. C. Walters, Satisficing and Learning Cooperation in the Prisoner's Dilemma. *Proceedings of the 2001 International Joint Conference on Artificial Intelligence*.
- J. Tang, Y.K. Ng, and M. A. Goodrich. A Binary-Categorization Approach for Classifying Multiple-Record Web Documents Using Application Ontologies and a Probabilistic Model. *Proceedings 7th International Conference on Database Systems for Advanced Applications (DASFAA 2001)*, Hong Kong, April 18-20, 2001. M. A. Goodrich and T. J. Palmer. Discretionary Behavior Switching: Analysis and Synthesis Results. In proceedings *IEEE International Conference on Systems, Man, and Cybernetics*, Nashville, Tennessee, USA, October 9-11, 2000.
- M. A. Goodrich, E. R. Boer, and H. Inoue. A Model of Human Brake Initiation Behavior with Implications for ACC Design. *Proceedings IEEE/IEEJ/JSAI Conference on Intelligent Transportation Systems*, Tokyo, Japan, October 5-8, 1999.
- M. A. Goodrich, E. R. Boer, and H. Inoue. A Characterization of Dynamic Human Braking Behavior with Implications for ACC Design. *Proceedings IEEE/IEEJ/JSAI Conference on Intelligent Transportation Systems*, Tokyo, Japan, October 5-8, 1999.
- M. A. Goodrich and E. R. Boer. Multiple Mental Models, Automation Strategies, and Intelligent Vehicle Systems. *Proceedings IEEE/IEEJ/JSAI Conference on Intelligent Transportation Systems*, Tokyo, Japan, October 5-8, 1999.

- E. R. Boer, E. C. Hildreth, and M. A. Goodrich. A Driver Model of Attention Management and Task Scheduling: Satisficing Decision Making with Dynamic Mental Models. *Proceedings 17th European Annual Conference on Human Decision Making and Control '98*, Valenciennes, France, December 14-16, 1998.
- M. A. Goodrich and E. R. Boer. Maintaining Driver Autonomy with Collision Avoidance Systems: A Satisficing Approach. *Proceedings of the IEEE Conference on Intelligent Transportation Systems*, Boston, MA, November, 1997.
- W. C. Stirling, M. A. Goodrich, and R. L. Frost. Toward a Theoretical Foundation for Multi-Agent Coordinated Decisions. *Proceedings, Second International Conference on Multi-Agent Systems*, Kyoto, Japan, December 10-13 1996.
- M. A. Goodrich, W. C. Stirling, and R. L. Frost. A Satisficing Fuzzy Logic Controller. In *Proceedings of the FUZZ-IEEE'96. Proceedings International Conference on Fuzzy Systems*, New Orleans, Louisiana, September 8-11 1996.

Conference and Workshop Papers (some peer review)

- J. Ferketic, L. Goldblatt, E. Hodgson, S. Murray, R. Wichowski, A. Bradley, T.W. Fong, J. Evans, W. Chun, R. Stiles, M. Goodrich, and A.M. Steinfeld. Toward Human-Robot Interface Standards: Use of Standardization and Intelligent Subsystems for Advancing Human-Robotic Competency in Space Exploration. *Proceedings of the SAE 36th International Conference on Environmental Systems*, No. 2006-01-2019, July 2006.
- J. L. Cooper and M. A. Goodrich. Integrating critical interface elements for intuitive single-display aviation control of UAVs. *Proceedings of SPIE -- Volume 6226 Enhanced and Synthetic Vision 2006*, Jacques G. Verly, Jeff J. Guell, Editors. Abstract and paper download available from SPIE.
- J. A. Atherton, B. Hardin, and M. A. Goodrich. Coordinating a Multi-Agent Team Using a Multiple Perspective Interface Paradigm. In *Proceedings of the AAAI 2006 Spring Symposium: To Boldly Go Where No Human-Robot Team Has Gone Before*. Stanford University, California. March 27-29, 2006.
- M. A. Goodrich. Using Models of Cognition in HRI Evaluation and Design. *Proceedings of the AAAI 2004 Fall Symposium Series: The Intersection of Cognitive Science and Robotics: From Interfaces to Intelligence*, October 21-24, 2004, Arlington, Virginia.
- J. W. Crandall and M. A. Goodrich. Learning Near-Pareto Efficient Solutions With Minimal Knowledge Requirements Using Satisficing. In *Proceedings of the AAAI Fall Series: Artificial Multiagent Learning*, October 21-24, 2004, Arlington, Virginia.
- M. A. Goodrich and M. Quigley. Learning Haptic Feedback for Guiding Driver Behavior. *Proceedings of the 2004 IEEE Conference on Systems, Man, and Cybernetics*. October 10-13, 2004, The Hague, The Netherlands.
- C. W. Nielsen, B. Ricks, M. A. Goodrich, D. Bruemmer, D. Few, and M. Walton. Snapshots for Semantic Maps. *Proceedings of the 2004 IEEE Conference on Systems, Man, and Cybernetics*. October 10-13, 2004, The Hague, The Netherlands.

- M. A. Goodrich, E. R. Boer, J. W. Crandall, R. W. Ricks, and M. L. Quigley. Behavioral Entropy in Human-Robot Interaction. *Proceedings of PERMIS 2004*. Aug 24-26, 2004, Gaithersburg, Maryland.
- J. W. Crandall and M. A. Goodrich. Establishing Reputation Using Social Commitment in Repeated Games. *Proceedings of the AAMAS-04 Workshop on Learning and Evolution in Agent Based Systems*. July 20, 2004, New York.
- J. W. Crandall and M. A. Goodrich. Multiagent Learning During On-Going Human-Machine Interactions: The Role of Reputation. In *Proceedings of the AAI Spring Symposium: Interaction between Humans and Autonomous Systems over Extended Operation*, March 22-24, 2004, Stanford, California.
- J.M. Bradshaw, A. Acquisti, J. allen, M. Breedy, L. Bunch, N. Chambers, L. Galescu, M. Goodrich, R. Jeffers, M. Johnson, H. Jung, S. Kulkarni, J. Lott, D. Olsen, M. Sierhuis, N. Suri, W. Taysom, G. Tonti, A. Uszok, and R. van Hoof, Teamwork-Centered Autonomy for Extended Human-Agent Interaction in Space Applications. *Proceedings of the AAI Spring Symposium: Interaction between Humans and Autonomous Systems over Extended Operation*, AAAI Press, 2004, pp. 136–140, March 22-24, 2004, Stanford, California.
- M. A. Goodrich and D. R. Olsen, Jr. Seven Principles of Efficient Interaction. *Proceedings of IEEE International Conference on Systems, Man, and Cybernetics*, October 5-8, 2003, pp. 3943-3948.
- J. W. Crandall, C.W. Nielsen, and M. A. Goodrich. Towards Predicting Robot Team Performance. *Proceedings of IEEE International Conference on Systems, Man, and Cybernetics*, October 5-8, 2003, pp. 906-911.
- J. W. Crandall and M. A. Goodrich. Measuring the Intelligence of a Robot and Its Interface. *Proceedings of PERMIS 2003*, September 2003.
- D. R. Olsen, Jr., and M. A. Goodrich. Metrics For Evaluating Human-Robot Interactions. *Proceedings of PERMIS 2003*, September 2003.
- M. A. Goodrich, J. W. Crandall, and J. L. Stimpson, Neglect Tolerant Teaming: Issues and Dilemmas. *Proceedings of the 2003 AAI Spring Symposium on Human Interaction with Autonomous Systems in Complex Environments*.
- J. W. Crandall and M. A. Goodrich, Principles of Adjustable Interactions. *Proceedings of the 2002 AAI Fall Symposium Human-Robot Interaction Workshop*. November 15-17, 2002. North Falmouth, Massachusetts.
- M. A. Goodrich. A Satisficing Approach to Assigning Vehicles to Targets. Accepted for Publication in *IEEE International Conference on Systems, Man, and Cybernetics 2001*. Due to a publishing error, this paper did not appear in the proceedings of the conference.
- J. W. Crandall and M. A. Goodrich, Experiments in Adjustable Autonomy. *Proceedings of the IEEE International Conference on Systems, Man, and Cybernetics 2001*.
- W. C. Stirling and M. A. Goodrich. Conditional Preferences for Social Systems. *Proceedings of the IEEE International Conference on Systems, Man, and Cybernetics 2001*.
- Michael A. Goodrich, Dan. R. Olsen Jr., Jacob W. Crandall, and Thomas J. Palmer, Experiments in Adjustable Autonomy. *Proceedings of the IJCAI01*

- workshop on Autonomy, Delegation, and Control: Interacting with Autonomous Agents*. 2001
- M. A. Goodrich and T. J. Palmer. Discretionary Behavior Switching: Analysis and Synthesis Results. *Proceedings IEEE International Conference on Systems, Man, and Cybernetics*, Nashville, Tennessee, USA, October 9-11, 2000.
 - M. A. Goodrich. Emotions and Intelligent Choice: Feasibility, Seriousness, and Admissibility. *Proceedings 1999 International Symposium on Intelligent Control/ Intelligent Systems and Semiotics*, Boston, Massachusetts, September 15-17, 1999.
 - W. C. Stirling, M. A. Goodrich, and D. Packard. Satisficing Equilibria: A Non-Classical Theory of Games and Decisions. *Proceedings Workshop on Decision Theoretic and Game Theoretic Agents of the Fifth European Conference on Symbolic and Quantitative Approaches to Reasoning with Uncertainty*, London, July 7-9, 1999.
 - E. R. Boer, E. C. Hildreth, and M. A. Goodrich. Drivers in Pursuit of Perceptual and Virtual Targets. *Proceedings of the IEEE Intelligent Vehicles '98 Symposium*, Stuttgart, Germany, October 28-30, pp. 291-296, v.1, 1998.
 - E. R. Boer and M. A. Goodrich. Mental Models in Micro Worlds: Situated Representations for the Navigationally Challenged. *Proceedings of the 1998 IEEE International Conference on Systems, Man, and Cybernetics*, San Diego, CA, USA, October 11-14, 1998
 - M. A. Goodrich and E. R. Boer. Semiotics and Mental Models: Modeling Automobile Driver Behavior. *Proceedings of the 1998 IEEE ISIC/CIRA/ISAS Joint Conference*. 771-776. Gaithersburg, Maryland, USA, September 14-17, 1998.
 - M. A. Goodrich and E. R. Boer. Validating the Satisficing Approach to Collision Avoidance System Design. *Proceedings of the 2nd IMACS International Multi-conference: Computational Engineering in Systems Applications*, 4:273-278, Nabeul-Hammamet, Tunisia, April 1-4, 1998.
 - W. C. Stirling, M. A. Goodrich, and R. L. Frost. Satisficing Intelligent Decisions Using Epistemic Utility Theory. *Proceedings of the 1996 International Multidisciplinary Conference on Applied Semiotics*, Gaithersburg, MD, USA, October 20-23 1996.
 - M. A. Goodrich, W. C. Stirling, and R. L. Frost. A Satisficing Approach to Intelligent Control of Nonlinear Systems. *Proceedings of the 1996 International Symposium on Intelligent Control*, Dearborn, Michigan, USA, September 15-18, 1996.

Book Chapters

- M. A. Goodrich. On Maximizing Fan-Out: Towards Controlling Multiple Unmanned Vehicles. *Human-Robot Interaction in the Military*. M. Barnes and F. Jentsch, Eds. Ashgate Publishing, Surrey, England, 2010.
- M. Draper, T. Barry, G. Calhoun, J. Clark, M. Draper, M. Goodrich, C. Jansen, J. Kessens, F. Kooi, A. Lefebvre, S. Murray, J. Nelson, C. Nielsen, G. Osga, A. Oudenhuijzen, M. Quigley, R. Shively, B. Simpson, R. Stone, L. van Breda, J. van Delft, J. van Erp. Advanced Operator Interfaces. In *Uninhabited Military*

- Vehicles (UMVs): Human Factors Issues in Augmenting the Force.* Chapter 6. 2006. NATO-RTO-TR-HFM-078. Neully-sur-Seine: NATO-RTO.
- W. C. Stirling, M. A. Goodrich, and D. J. Packard. Satisficing Equilibria: A Non-Classical Approach to Games and Decisions. In *Game Theory and Decision Theory in Agent-Based Systems*, S. Parsons and P. Gymtrasiewicz, eds. Kluwer Academic Publishers, Boston, 2002.

Professional Activities

Professional Societies

Senior Member, IEEE
Member, ACM
Member, AAAI

Reviewer for Funding Proposals

Details of these panels are omitted as requested by the NSF and ARL
NSF 2008, 2007, 2005
ARL 2008

Reviewed papers for the following journals:

Journal of Field Robotis
International Journal of Robotics Research
Pattern Analysis and Applications
International Journal of Human Computer Studies
IEEE Transactions on Systems, Man, and Cybernetics, Parts A, B, and C.
IEEE Transactions on Fuzzy Systems
Journal of Multi-Agent Systems
IEEE Transactions on Robotics
IEEE Intelligent Systems
IET Control Theory & Applications

Conference Administration (Since 2000)

Development Chair, *2009 ACM/IEEE International Conference on Human-Robot Interaction.*
Program Committee, *2008 ACM/IEEE International Conference on Human-Robot Interaction.*
General Chair, *2006 ACM/IEEE International Conference on Human-Robot Interaction.*
Steering Committee Co-Chair, *ACM/IEEE International Conference on Human-Robot Interaction Conference, 2006-2010.*
Program Committee, *2005 AAMAS Workshop on Intelligent and Adaptive Agents.*
Panel Organizer *2004 Conference on Human Factors in Computing systems* panel on human interaction with automobiles.
Panelist *2004 Conference on Human Factors in Computing systems* panel on human interaction with robots.

Brigham Young University Service

Computer Science Department Committees

Member, Graduate Committee (July 08 – present)

Member, Graduate Admissions Committee (July 08 – present)

Chair, Teaching Committee (Sep 05 – July 08)

Chair, Alumni Relations Committee (Sept 03-Sep 05)

Member, Undergraduate Curriculum Committee (Sept 03-Present)

Chair, Capital Equipment Committee (Sept 01-Aug03)

Graduate Admissions Committee (Chair, Winter 01; Member, SpSu 01)

Colloquium Committee (Chair, Sept 99-Aug 00; Member Sept 98-Aug 99)

Chair, Social Committee (Sep 98 to Aug 99)

Graduate Degrees Supervised

Student	Degree	Date	Topic
Philip Cook	Ph.D.	Current	Multi-agent learning
Lanny Lin	Ph.D.	Current	Artificial Intelligence
Alan Atherton	Ph.D.	Current	Ecological robot displays
Curtis Nielsen	Ph.D.	Jan 2006	Ecological Interfaces for UGVs
Jacob Crandall	Ph.D.	Dec 2005	Multi-agent learning
Brian Pendleton	M.S.	Current	Human-Interaction with Bio-Inspired Robot Teams
Yisong Guo	M.S.	Current	Agent-Based Simulation and Human-Robot Organizations
Mike Roscheck	M.S.	Current	Seeability from Ground Searcher Track Logs
Braden Huber	M.S.	June 2009	UAV-based radio beacon finding
Jon Whetten	M.S.	November 2009	Multi-operator robot control user interfaces
Ben Hardin	M.S.	August 2008	Mixed initiative autonomy
Joseph Cooper	M.S.	November 2007	UAV control user interfaces
Philip Cook	M.S.	September 2007	Multi-Agent Learning
Bob Ricks	M.S.	August 2004	Ecological robot displays
Jacob Crandall	M.S.	September 2003	Neglect tolerant robotics
Curtis Nielsen	M.S.	January 2003	Topological robot maps
Jeff Stimpson	M.S.	July 2002	Satisficing multi-agent learning
Thomas J. Palmer	M.S.	July 2001	BRUVO robot architecture
June Tang	M.S.	March 2001	Probabilistic data categorization