

Bibliography

[Agagino96] Agogino, A., K. Goebel, and S. Alag, “Intelligent Sensor Validation and Fusion,” *Intellimotion*, vol. 5, no. 2, pp. 6-7, 1996.

[AHS] FHWA/Mitretek AHS Team, “Automated Highway Systems (AHS),” *NAHSC*, <http://www.volpe.dot.gov/ahs/> (Dec 6, 1996).

[Arc96] “ARC/INFO Professional GIS,” *Environmental Systems Research Institute, Inc.*, <http://www.esri.com/base/products/arcinfo/arcinfo.html> (Jan 2, 1996).

[Aoki] Aoki, T., T. Suzuki, and S. Okuma, “Acquisition of Optimal Action Selection in Autonomous Mobile Robot Using Learning Automata (Experimental Evaluation),” *Proceedings of the IEEE Conference on Fuzzy Logic and Neural Networks/Evolutionary Computation*, pp.56-63, Nagoya, Japan, Nov. 1995.

[Ashby60] Ashby, W. R., *Design for a Brain: The Origin of Adaptive Behaviour*, New York, NY: John Wiley and Sons, 1960.

[Asher96] Asher, H. J., and B. A. Galler, “Collision Warning Using Neighboring Vehicle Information,” *Proceedings of the 6th Annual Meeting of ITS America*, vol. 2, pp. 674-684, 1996.

[Atkinson65] Atkinson, R.C., G.H. Bower and E.J. Crothers, *An Introduction to Mathematical Learning Theory*, New York: Wiley, 1965.

[Baba80] Baba, N., T. Soeda, T. Shoman, and Y.Sawaragi, “An Application of Learning Automata to the Investment Game,” *International Journal of System Sciences*, vol. 11, pp.1447-45, 1980.

[Baba83] N. Baba, “The Absolutely Expedient nonlinear Reinforcement Schemes under the Unknown Multi-Teacher Environment,” *IEEE Transactions on Systems, Man and Cybernetics*, SMC-13, pp. 100-108, 1983.

[Baba85] N. Baba, *New Topics in Learning Automata Theory and Applications*, Number 71 in Lecture Notes in Control and Information Sciences, Berlin: Springer-Verlag, 1985.

[Batelle94] “Institutional and Societal Aspects of AHS,” Technical Report FHWA-RD-95-045 by Batelle, *AHS Precursor Systems Analyses*, Compendium of Research Summaries, compiled by Information Dynamics, Inc. & Viggen Corp., McLean, VA, February 1994.

[Bayouth96] Bayouth, M, and C. Thorpe, “An AHS Concept Based an Autonomous Vehicle Architecture,” *Proceedings of the 3rd World Congress in ITS*, Orlando, FL, October 1996.

[Bloomfield96] Bloomfield, J. R., “The driver’s Response to Decreasing Vehicle Separations During Transitions into the Automated Lane,” Technical Report FHWA-RD-95-107, Federal Highway Administration, Turner-Fairbank Highway Research Center, McLean VA, 1996.

[Bloomfield96b] Bloomfield, J. R., “Human Factors Aspects of Transferring Control from the Driver to the Automated Highway System with Varying Degrees of Automation,” Technical Report FHWA-RD-95-108, Federal Highway Administration, Turner-Fairbank Highway Research Center, McLean VA, 1996.

[Bolla96] Bolla, R., F. Davoli, and C. Nobile, “A Mobile Network Architecture for Vehicle-to-Vehicle Communications,” *Proceedings of the 3rd World Congress in ITS*, Orlando, FL, October 1996.

[Braess95] Braess, H.-H., “PROMETHEUS, Contribution to a Comprehensive Concept for Future Road Traffic,” *Smart vehicles*, Lisse, Netherlands: Swets & Zeitlinger, pp. 3-36. 1995.

[Bush58] Bush, R. R., and F. Mosteller, *Stochastic Models for Learning*, New York: Wiley, 1958.

[Cameron96] Cameron, G. D .B., and G. I. D. Duncan, “PARAMICS, Parallel Microscopic Simulation of Road Traffic,” *Journal of Supercomputing*, vol. 10, no. 1, pp. 25-53. 1996.

[Card93] Statement of Andrew H. Card, President and Chief Executive Officer of American Automobile Manufacturers Association, *November 10th, 1993 Hearing before the Subcommittee on Investigations and Oversight of the Committee on Science, Space and Technology, US. House of Representatives, 103 Congress, First Session*, pp. 108-109. US Gov. Printing Office, Washington 1994. (Doc. Y4.sci2 no.103/75)

[Chand68] Chandrasekharan, B., and D.W.C. Shen, “On Expediency and Convergence in Variable Structure Stochastic Automata,” *IEEE Transactions on System Science and Cybernetics*, vol. SSC-5, pp. 145-149, 1968.

[Chand69] Chandrasekharan, B., and D.W.C. Shen, “Stochastic Automata Games,” *IEEE Transactions on System Science and Cybernetics*, vol. SSC-5, pp. 145-149, 1969.

[Chee95] Chee, W. “Lane Change Maneuvers for Automated Highway Systems,” Research Report, University of California, Berkeley, 1995.

[Chen96] Chen, C., B. Foreman, "A Discussion of the WaveLAN Radio as Relevant to AVCS," Technical Note 96-1, Institute of Transportation Studies, University of California, Berkeley, 1996.

[Chira92] Chira-Chavala, T., W. B. Zhang, J. Walker, F. Javandel, and L. Demsetz, "Feasibility Study of Advanced Technology HOV Systems, vol. 4: Implementation of Lateral Control Systems in Transitways," Technical Report UCB-ITS-PRR-92-6, Program on Advanced Technology for the Highway, Institute of Transportation Studies, University of California, Berkeley, 1992.

[Cogan96] Cogan, R., "Wheels in Motion," *ITS World, Technology and Applications for Intelligent Transportation Systems*, pp. 18-22, July/August 1996, ISBN 1086-2145.

[Construction96] *Overview on AHS Operational Demonstration Tests*, Public Works Research Institute, Intelligent Transport Systems Division, Ministry of Construction, Ibaraki, Japan, 1996.

[Cremer94] Cremer, J., J. Kearney, Y. Papelis, and R. Romano, "The Software Architecture for Scenario Control in the Iowa Driving Simulator," *Proceedings of the 4th Computer Generated Forces and Behavioral Representation*, May 1994.

[CSIM96] "Mesquite CSIM 18- A Development Toolkit for Simulation and Modeling," *Mesquite Software, Inc.*, <http://www.mesquite.com/csim18.htm> (Jan 2, 1997).

[Delco94] "Institutional and Societal Aspects of AHS," Technical Report FHWA-RD-95-151 by Delco, *AHS Precursor Systems Analyses*, Compendium of Research Summaries, compiled by Information Dynamics, Inc. & Vigen Corp., McLean, VA, February 1994.

[Deshpande96] Deshpande, A., "Design and Evaluation Tools for Automated Highway Systems," in *Hybrid Systems III : Verification and Control*. New Brunswick: Springer-Verlag, pp. 138-148, 1996.

[Duncan96] Duncan, G., "Simulation at the Microscopic Level," *Traffic Technology International*, pp. 62-66, 1996.

[Eskafi95] Eskafi, F., D. Khorramabadi, and P. Varaiya, "An Automated Highway System Simulator," *Transportation research. Part C, Emerging technologies*, vol. 3C, no. 1, pp. 1-17, 1995.

[Ewing95] Ewing, T., "Large-scale Intelligent Transportation Systems Simulation," Technical Report ANL/RA/CP-85716, Argonne National Laboratory, Argonne, IL, 1995.

[Field92] *Intelligent Vehicle Highway systems: Review of Field Trials*, Organization for Economic Cooperation and Development, 1992.

[Forbes95] Forbes, J., T. Huang, K. Kanazawa, and S. Russell, "The BATmobile: Towards a Bayesian Automated Taxi," *Proceedings of the 14th International Joint Conference on Artificial Intelligence*, Montreal, Canada, 1995.

[Foreman95] Foreman, B., "A Survey of Wireless Communications Technologies for Automated Vehicle Control," *Systems and Issues in ITS*, pp. 73-79, 1995.

[Frank89] Frank A. A., S. J. Liu, and S. C. Liang, "Longitudinal Control Concepts for Automated Automobiles and Trucks Operating on a Cooperative Highway," in *Vehicle/Highway Automation: Technology and Policy Issues*, Society of Automotive Engineers, pp. 61-68, 1989.

[Fu65a] Fu, K.S., and G.J. McMurtry, "A Study of Stochastic Automata as Models of Adaptive and Learning Controllers," Technical Report TR-EE 65-8, Purdue University, Lafayette, IN, 1965.

[Fu65b] Fu, K.S., and G.J. McMurtry, "An Application of Stochastic Automata to the Synthesis Learning Systems," Technical Report TR-EE 65-17, Purdue University, Lafayette, IN., 1965.

[Fu67] Fu, K.S., "Stochastic Automata as Models of Learning Systems," in *Computer and Information Sciences II*, J.T. Lou, Editor, New York: Academic, 1967.

[Fu69a] Fu, K.S., and T.J. Li, "Formulation of Learning Automata and Automata Games," *Information Science*, vol. 1, no. 3, pp. 237-256, 1969.

[Fu69b] Fu, K.S., and T.J. Li, "On Stochastic Automata and Languages," *Information Science*, vol. 1, no. 4, pp. 403-419, 1969.

[Fu71] Fu, K.S., "Stochastic Automata, Stochastic Languages and Pattern Recognition," *Journal of Cybernetics*, vol. 1, no. 3, pp. 31-48, 1971.

[Fuji96] Fuji, H., O. Hayashi, and Y. Hirao, "Experimental Research on Protocol of Inter-Vehicle Communications for Multiple Vehicles," *Proceedings of the 3rd World Congress in ITS*, Orlando, FL, October 1996.

[Furakawa92] Furakawa, Y., "The direction of Future Automotive Safety Technology," in *Vehicle Electronics Meeting Society's Needs: Energy, Environment, Safety*, Society of Automotive Engineers, pp. 95-102, 1992.

[Garfinkel96] Garfinkel, S. L., "Why Driver Privacy Must Be a Part of ITS," *Converging Infrastructures: Intelligent Transportation and the National Information Infrastructure*, Cambridge, MA: MIT Press, pp. 324-340, 1996.

[Gavan96] Gavan, J., and F. Handler, "Analysis, Computation and Mitigation of the Interference to a Remote Receiver from Two Collocated Vehicular Transceivers," *IEEE Transactions on Vehicular Technology*, vol. 45, no. 3, pp. 431-442, 1996.

[Gilbert92] Gilbert, V., J. Thibault, and K. Najim, "Learning Automata for the Control and Optimization of a Continuous Stirred Tank Fermenter," *IFAC Symposium on Adaptive systems in Control and Signal Processing*, Grenoble, France, July 1992.

[Godbole95] Godbole, D., J. Lygeros, and S. Sastry, "Hierarchical Hybrid Control : a Case Study," in *Hybrid systems II*, Berlin: Springer-Verlag, pp. 166-190, 1995.

[Godbole96] Godbole, D., "Towards a Fault Tolerant AHS Design. Part II, Design and Verification of Communication Protocols," Technical Report UCB-ITS-PRR-96-15, PATH Program, Institute of Transportation Studies, University of California, Berkeley, 1996.

[Godbole96b] Godbole, D., M. Miller, J. Misener, R. Sengupta, and J. Tsao, "An infrastructure Assisted Concept for AHS," *Proceedings of the 3rd World Congress in ITS*, Orlando, FL, October 1996.

[Hayes94] Opening Statement by James A. Hayes, Chairman, Subcommittee on Investigations and Oversight Committee, in *November 10th, 1993 Hearing before the Subcommittee on Investigations and Oversight of the Committee on Science, Space and Technology, US. House of Representatives, 103 Congress, First Session*, p.3. US Gov. Printing Office, Washington, 1994. (Doc. Y4.sci2 no.103/75)

[Hedrick96] Hedrick, J. K., J.C. Gerdes, D. B. Maciucă, D. Swaroop, and V. Garg, "Longitudinal Control Development for IVHS Fully Automated and Semi-Automated Systems: Phase II," Technical Report UCB-ITS-PRR-96-01, PATH Program, Institute of Transportation Studies, University of California, Berkeley, 1996.

[Hessburg91] Hessburg, T. and M. Tomizuka, "A Fuzzy Rule-Based Controller for Automotive Vehicle Guidance," Technical Report UCB-ITS-PRR-91-18, PATH Program, Institute of Transportation Studies, University of California, Berkeley, 1991.

[Hessburg95] Hessburg, T., and M. Tomizuka, "Fuzzy Logic Control for Lane Change Maneuvers in Lateral Vehicle Guidance," Technical Report UCB-ITS-PWP-95-13, PATH Program, Institute of Transportation Studies, University of California, Berkeley, 1995.

[Ho96] Ho, F.-S., and P. Ioannou, "Traffic Flow Modeling and Control using Artificial Neural Networks," *IEEE Control Systems*, vol. 16, no. 5, pp. 1626, October 1996.

[Ikonen97] Ikonen, E., and K. Najim, "Use of Learning Automata in Distributed Fuzzy Logic Processor Training," *IEE Proceedings of Control Theory and Applications*, in press, 1997.

[ITSJ96] *ITS Handbook in Japan*, Highway Industry Development Organization, Tokyo, Japan.

[ITSst96] US Department of Transportation, "The US DOT's Intelligent Transportation Systems (ITS) Standards Program: 1996 Status Report," <http://www.its.dot.gov/standards/docs/REPORT96.htm> (January 9, 1996).

[ITSW96] *ITS World, Technology and Applications for Intelligent Transportation Systems*, issues July-August, September-October 1996, Advanstar Communications, Eugene, OR, ISBN 1086-2145.

[James94] James, R. D. and A. S. Walimbe, "An Automated Highway system Evolution Concept: The Road and Vehicle United," Technical Report, Center for Transportation Research, Virginia Tech, August 1994.

[James96] James, R.D., "Widening the Net," *COMTrans (Communication Networks for ITS)*, supplement to *Traffic Technology International*, pp. 60-64, August 1996.

[Kachroo95] Kachroo, P., K. Özbay, R. G. Leonard, and C. Ünsal, "Flexible Low-Cost Automated Scaled Highway (FLASH) Laboratory for Studies on Automated Highway Systems," *Proceedings of the IEEE International Conference on Systems, Man and Cybernetics*, vol. 1, pp. 771-776, 1995.

[Kachroo95b] Kachroo, P., "Sliding Mode Full-state Feedback Longitudinal Control of Vehicles in an Automated Highway System (AHS)," *Mobile Robots X*, SPIE, Bellingham WA, pp. 260-268, 1995.

[Kachroo95c] Kachroo, P., and M. Tomizuka, "Vehicle Control for Automated Highway Systems for Improved Lateral Maneuverability," *Proceedings of the IEEE International Conference on Systems, Man and Cybernetics*, Vancouver, B.C., vol. 1, pp. 777-782, 1995.

[Kachroo96] Kachroo, P., A. Walimbe, and B. Benham, "Longitudinal and Lateral Vehicle Control Setup in the Flexible Low-Cost Automated Scaled Highway (FLASH) Laboratory," in the *Proceedings of ITS America, Sixth Annual Meeting*, 1996.

[Kachroo96b] Kachroo, P., K. Özbay, and R. Nagarajan, "DYNAMIC Visual Micro-macroscopic Traffic Software (DYNVIMTS) Package for Studies on Automated Highway Systems (AHS)," 3rd ITS World Congress, Orlando, Florida, 1996.

[Kachroo96c] Kachroo, P., and M. Tomizuka, "Chattering Reduction and Error Convergence in the Sliding Mode Control of a Class of Nonlinear Systems," *IEEE Transactions on Automatic Control*, vol. 41, no.7, July 1996.

[Kaelbling94] Kaelbling, L. P., "Reinforcement Learning," *MLnet Newsletter*, February 1994 (<http://www.tnt.uni-hannover.de/data/info/www/tnt/subj/sci/ai/machine-learning/reinforcement-learning.html>)

[Kalman62] Kalman, R.E, and J. E. Bertram, "Control System Analysis and Design via the Second Method of Lyapunov: II. Discrete-Time Systems," *ASME Journal of Basic Engineering*, ser. D, 82, pp. 394-400, 1962.

[Kornhauser91] Kornhauser, A.L., "Neural Network Approaches for Lateral Control of Autonomous Highway Vehicles," in *Vehicle Navigation and Information Systems Conference Proceedings*, Society of Automotive Engineers, pp. 1143-1151, 1991.

[Kushner72] Kushner, H.J., M.A.L. Thathachar, and S. Lakshmivarahan, "Two-state Automaton a Counterexample," Dec. 1979; Appendix to Viswanathan R, and K.S. Narendra, "A Note on the Linear Reinforcement Scheme for Variable Structure Stochastic Automata," *IEEE Transactions on Systems, Man and Cybernetics*, SMC-2, pp.292-294, Apr 1972.

[Kwon95] Kwon, E., and P. G. Machalopoulos, "Macroscopic Simulation of Traffic Flows in Complex Freeway Segments on a Personal Computer," *Proceedings of the 6th Vehicle Navigation and Information Systems Conference*, Seattle, Wash., pp. 342-345, 1995.

[Lakshmivarahan73] Lakshmivarahan, S. and M.A.L. Thathachar, "Absolutely Expedient Learning Algorithms for Stochastic Automata," *IEEE Transactions on Systems, Man and Cybernetics*, vol. SMC-6, pp. 281-286, 1973.

[Lakshmivarahan81] Lakshmivarahan, S., *Learning Algorithms: Theory and Applications*, New York: Springer-Verlag, 1981.

[Lakshmivarahan82] Lakshmivarahan, S., and K. S. Narendra, "Learning Algorithms for Two-person Zero-sum Stochastic Games with Incomplete Information: A Unified Approach," *SIAM Journal of Control and Optimization*, vol. 20, pp. 541-552, 1982.

[Lasky93] Lasky, T. L., and B. Ravani, "A review of Research Related to Automated Highway System (AHS)," Interim Report for Federal Highway Administration, Contract no. DTFH61-93-C-00189, University of California, Davis, October 25, 1993.

[Lee95] Lee, H., D.W. Love, and M. Tomizuka, "Longitudinal Maneuvering Control for Automated Highway Systems," *Proceedings of the American Control Conference*, Seattle, Wash., vol. 1, pp. 150-154, 1995.

[Levitan95] Levitan, L., "Preliminary Human Factors Guidelines for Automated Highway System Designers Volume I, Guidelines for AHS Designers," Technical Report FHWA-RD-94-116, Federal Highway Administration, McLean VA, 1995.

[Lin96] Lin, C.-F., and A.G. Ulsoy "Time to Lane Crossing Calculation and Characterization of its Associated Uncertainty," *ITS journal*, vol. 3, no. 2, pp. 85-98, 1996.

[Liu89] Liu, S. M., and A. A. Frank, "On Lateral Control of Highway Vehicles Guided by a Forward Looking Sensor," *Proceedings of the 1st International Conference on Applications of Advanced Technologies in Transportation Engineering*, San Diego, pp. 119-124, 1989.

[Lubin92] Lubin, J.M., E. C. Huber, S.A. Gilbert, and A. L. Kornhauser, "Analysis of a Neural Network Lateral Controller for an Autonomous Road Vehicle, in *IVHS Issues and Technology*, Society of Automotive Engineers, pp. 23-44, 1992.

[Lygeros94] Lygeros, J., and D. N. Godbole, "An Interface Between Continuous and Discrete-event Controllers for Vehicle Automation," *Proceedings of American Control Conference*, Baltimore, MD, vol. 1, pp. 801-805, 1994.

[Lygeros95] Lygeros, J., D. N. Godbole and M. E. Broucke, "Design of an Extended Architecture for Degraded Modes of Operation of IVHS," *Proceedings of American Control Conference*, Seattle, Wash., vol. 5, pp. 3592-3596, 1995.

[Lygeros96] Lygeros, J., D. N. Godbole, and M. Broucke, "Towards a Fault Tolerant AHS Design. Part I, Extended Architecture," Technical Report UCB-ITS-PRR-96-14, PATH Program, Institute of Transportation Studies, University of California, Berkeley, 1996.

[McGurrin96] McGurrin, M. F., "The Privacy Enhancement Protocol (PEP)," *3rd World Congress in ITS*, Orlando, FL, October 1996.

[Malik95] Malik, J., D. Koller, and T. Luong, "A Machine Vision Based System for Guiding Lane-change Maneuvers," Technical Report UCB-ITS-PRR-95-34, PATH Program, Institute of Transportation Studies, University of California, Berkeley, 1995.

[Matlab96] "MATLAB," *The Mathworks, Inc.*, <http://www.mathworks.com/matlab.html> (Dec 20, 1996).

[Marsh93] Marsh, C., Gordon, T. J., and Q. H. Wu, "Stochastic Optimal Control of Active Vehicle Suspensions using Learning Automata," *Proceedings I. Mech. Eng. Part I, Journal of Systems and Control Engineering*, vol. 207, pp.143-152, 1993.

[Marsh95] Marsh, C., and Gordon T. J., "The Application of Learning Automata to Controller Design in Slow-Active Automobile Suspensions," *International Journal for Vehicle Mechanics and Mobility*, vol. 24, no. 8, pp. 597-616, 1995.

[Mazzae96] Mazzae, E. N., and W. R. Garrott, "Development of performance Specifications for Collision Avoidance Systems for Lane Change, Merging and Backing: Human Factors Assessment of the Driver Interfaces of Existing Collision Avoidance Systems," Technical Report DOT HS 808 433, US DOT, National Highway Traffic Safety Administration, Springfield, VA, 1996.

[McKendree96] McKendree, T., "An AHS Concept Based on a Cooperative Approach," *Proceedings of the 3rd World Congress in ITS*, Orlando, FL, October 1996.

[McLaren66] McLaren, R.W., "A Stochastic Automaton Model for Synthesis of Learning Systems," *IEEE Transactions on System Science and Cybernetics*, SSC-2, pp. 109-114, 1966.

[Moon96] Moon, S.-H., C.-W. Kim, and M.-H. Han, "Navigation Control for an Autonomous Road Vehicle Using Neural Network," *Proceedings of the 3rd World Congress in ITS*, Orlando, FL, October 1996.

- [Mourou92] Mourou, P., and B. Fade, "Multi-agent Planning and Execution Monitoring: Application to Highway Traffic," *Proceedings of the AAAI Spring '92 Symposium*, pp. 107-112, 1992.
- [Nagarajan96] Nagarajan, R., *Micro-Macroscopic Modeling and Simulation of an Automated Highway System*, M. S. Thesis, Virginia Tech, September 1996.
- [Najim77] Najim, K., and Y.M. El Fattah, "Use of Learning Automaton in Static Control of a Phosphate Drying Furnace," *Proceedings of the 5th IFAC/IFIP International Conference on Digital Computer Applications to process Control*, The Hague, Netherlands, June 1977.
- [Najim91] Najim, K., "Modeling and Self-adjusting Control of an Absorption Column," *International Journal of Adaptive Control and Signal Processing*, vol. 5, pp. 335-345, 1991.
- [Najim 91b] Najim, K., and G. Oppenheim, "Learning Systems: Theory and Applications," *IEE Proceedings of Computer and Digital Techniques*, vol. 138, no. 4, pp. 183-192, 1991.
- [Najim94] K. Najim and A. S. Poznyak, editors, *Learning Automata: Theory and Application*, Tarrytown, NY: Elsevier Science Ltd., 1994.
- [Najim96] Najim, K., and A. S. Poznyak, "Multimodal Searching Technique Based on Learning Automata with Continuous Input and Changing Number of Actions," *IEEE Transactions on Systems, Man and Cybernetics, Part B*, vol. 26, no. 4, pp.666-673, 1996.
- [Narendra72] Narendra, K.S. and R. Viswanathan, "Learning Models using Stochastic Automata," *Proceedings of 1972 International Conference of Cybernetics and Society*, Washington, DC, Oct. 9-12, 1972.
- [Narendra74] Narendra, K.S., and M.A.L. Thathachar, "Learning Automata A Survey," *IEEE Transactions in Systems, Man and Cybernetics*, vol. SMC-4, no. 4, July 1974.
- [Narendra89] K. S. Narendra and M. L. Thathachar, *Learning Automata: An Introduction*, Englewood Cliffs, NJ: Prentice Hall, 1989.
- [Naruse93] Naruse, K., and Y. Kakazu, "Strategy Acquisition of Path Planning of Redundant Manipulator using Learning Automata", *IEEE International Workshop on Neuro-Fuzzy Control*, pp.154-159, 1993.
- [NASHC96] "National Automated Highway System Consortium," <http://www.volpe.dot.gov/nahsc/> (Dec. 6, 1996).

[Niehaus94] Niehaus, A, and R. F. Stengel, "Probability-Based Decision Making for Automated Highway Systems," *IEEE Transactions on Vehicular Technology*, vol. 43, no. 3, pp. 626-634, 1994.

[Norman68] Norman, M. F., "Mathematical Learning Theory," *Mathematics of the Decision Sciences, Part 2*, A. Dantzig, and A. Veinott, Editors, Providence, RI: American Mathematical Society, 1968, pp. 283-313.

[O'Brien96] O'Brien, R. T., P. A. Iglesias, and T. J. Urban, "Vehicle Lateral Control for Automated Highway Systems," *IEEE Transactions on Control Systems Technology*, vol. 4, no. 3, pp. 266-273, 1996.

[Oommen94a] Oommen, B. J., and E. V. de St. Croix, "String Taxonomy using Learning Automata, Technical Report TR-234, School of Computer Science, Carleton University, Ottawa, Canada, March 1994.

[Oommen94b] Oommen, B. J., and E. V. de St. Croix, "Graph Partitioning using Learning Automata, Technical Report TR-250, School of Computer Science, Carleton University, Ottawa, Canada, July 1994.

[Özgüner95] Özgüner, Ü., "Combined Longitudinal and Lateral Controller Design for a Vehicle with Radar Sensors," *IVHS and Advanced Transportation Systems*, Society of Automotive Engineers, Warrendale PA, pp. 51-57, 1995.

[Özgüner96] Özgüner, Ü., M. Somerville, K. Redmill, C. Hatipo_lu, K.A. Ünyelio_lu, and D. Craig, "Experimental Results of a Lane Following Controller Based on a Vision Sensor," *Proceedings of the 3rd World Congress in ITS*, Orlando, FL, October 1996.

[Papadimitriou94] Papadimitriou, G. I., "A New Approach to the Design of Reinforcement Schemes for Learning Automata: Stochastic Estimator Learning Algorithms," *IEEE Transactions on Knowledge and Data Engineering*, vol. 6, no. 1, pp. 649-654, Feb. 1994.

[PATH] Joh, J., *et al.* (PATH Design Team), "California Partners for Advanced Transit and Highways," <http://www-path.eecs.berkeley.edu/> (Dec. 6, 1996).

[PathDb96] Morris, S., and S. Petrites, "PATH Database," *California Partners for Advanced Transit and Highways*, <http://sunsite.berkeley.edu/~path/search.html> (Dec. 6, 1996).

[Peng93] Peng, J., and R. J. Williams, "Efficient Learning and Planning within the Dyna Framework", *Adaptive Behavior*, vol. 1, no. 4, pp. 437-454, 1993.

[Plan93] Department of Transportation's IVHS Strategic Plan Report to Congress, in *November 10th, 1993 Hearing before the Subcommittee on Investigations and Oversight of the Committee on Science, Space and Technology, US. House of Representatives, 103 Congress, First Session*, pp. 35-36. US Gov. Printing Office, Washington 1994. (Doc. Y4.sci2 no.103/75)

[Pomerlau96] Pomerlau, D., and T. Jochem, "Rapidly Adapting Machine Vision for Automated Vehicle Steering," *IEEE Expert*, vol. 11, no. 2, pp. 19-27, 1996.

[Poznyak96] Poznyak, A., K. Najim, and E. Ikonen, "Adaptive Selection of the Optimal Model Order of Linear Regression Models using Learning Automata," *International Journal of Systems Science*, vol. 27, no. 2, pp. 151-159, 1996.

[PSA94] AHS Precursor Systems Analyses, Compendium of Research Summaries, compiled by Information Dynamics, Inc. & Vigen Corp., McLean, VA, February 1994.

[Puri95] Puri, A., and P. Varaiya, "Driving Safely in Smart Cars," *Proceedings of the American Control Conference*, Seattle, WA, vol. 5, pp. 3597-3599, 1995.

[Rajaraman96] Rajaraman, K., and P. S. Sastry, "Finite Time Analysis of the Pursuit Algorithm for Learning Automata," *IEEE Transactions on Systems, Man and Cybernetics, Part B*, vol. 26, no. 4, pp.590-598, 1996.

[Rault95] Rault, A., and M. Muffat, "Short-term and Mid-term Applications in the Automotive Sector : Prometheus Activities of Peugeot SA and Renault," *Presentations of the Joint California PATH and France Workshop*, Pichmond, CA, 1995.

[Raytheon94] "Knowledge Based Systems and Learning Methods for AHS," Technical Report FHWA-RD-95-045 by Raytheon, *AHS Precursor Systems Analyses*, Compendium of Research Summaries, compiled by Information Dynamics, Inc., and Vigen Corporation, McLean, VA, February 1994.

[Safety92] Intelligent Vehicle-Highway Systems (IVHS) Safety and Human Factors Considerations, Technical Report IVHS-AMER-ATMS-92-1, IVHS AMERICA, 1992.

[Sastry93] Sastry, P. S., K. Rajaraman, and S. R. Ranjan, "Learning Optimal Conjunctive Concepts through a Team of Stochastic Automata," *IEEE Transactions on Systems, Man, and Cybernetics*, July-Aug. 1993.

[Schlegel96] Schlegel, N., and P. Kachroo, "Teleroptic Operation Combined with Automated Vehicle Control," *Proceedings of the SPIE-Photonics East '96*, Boston, MA, November 1996.

[Schuster96] Schuster, S., and C. Jacoby, "An AHS Concept Based on Maximum Adaptability," *Proceedings of the 3rd World Congress in ITS*, Orlando, FL, October 1996.

[Sequeira91] Sequeira, J., C. Bispo, and J. Sentieiro, "Distributed Control of a Flexible Manufacturing Plant Using Learning Automata," *Proceedings of the IMACS/IFAC International Symposium, Parallel and Distributed Computing in Engineering Systems*, Corfu, Greece, pp. 327-332, June 1992.

[Shapiro69] Shapiro I.J., and K.S. Narendra, "Use of Stochastic Automata for Parameter Self-Optimization with Multi-Modal Performance Criteria," *IEEE Transactions on System Science and Cybernetics*, vol. SSC-5, pp. 352-360, 1969.

[Sheikholeslam89] Sheikholeslam S., and C.A. Desoer, "Longitudinal Control of a Platoon of Vehicles I: Linear Model," Technical Report UCB-ITS-PRR-89-3, PATH Program, Institute of Transportation Studies, University of California, Berkeley, 1989.

[Sheikholeslam91] Sheikholeslam S., and C.A. Desoer, "Longitudinal Control of a Platoon of Vehicles with No Communication of Lead Vehicle Information: A System-Level Study," PATH Technical Memorandum 91-2, Institute of Transportation Studies, University of California, Berkeley, 1991.

[Shiller95] Shiller, Z., and S. Sundar, "Emergency Maneuvers for AHS Vehicles," *Systems and Issues in ITS*, Society of Automotive Engineers, Warrendale PA, pp. 1-11, 1995.

[Singer95] Singer, R. M., K. C. Gross, and S Wegerich, "A Fault Tolerant Sensory Diagnostic System for Intelligent Vehicle Application," *Intelligent Vehicles '95 Symposium*, Detroit, MI, pp. 176-182, 1995.

[Slotine91] Slotine, J.-J. E., and Li, W., *Applied Nonlinear Control*, Englewood Cliffs, NJ: Prentice-Hall, 1991.

[Smart94] Smart Road Development Effort Report, Center for Transportation Research, Virginia Tech, 1994.

[Spooner95] Spooner, J.T., and K. M. Passino, "Fault Tolerant Longitudinal and Lateral Control for Automated Highway Systems," *Proceedings of the American Control Conference*, Seattle, Wash., vol. 1, pp. 663-667, 1995.

[Spooner96] Spooner, J.T., and K. M. Passino, "Adaptive Control of a Class of Decentralized Nonlinear Systems," *IEEE transactions on Automatic Control*, vol. 41, no. 2, pp. 280-284, 1996.

[Stevenson95] Stevenson, F. E., "Legal and Procurement Issues: a Practical Guide to Drafting ETTM Agreements," *Proceedings of the International Electronic Toll & Traffic Management Symposium*, New York, N. Y., pp. 91-102, 1995.

[Sukthankar96a] Sukthankar, R., J. Hancock, S. Baluja, D. Pomerlau, and C. Thorpe, "Adaptive Intelligent Vehicle Modules for Tactical Driving," *Proceedings of the 13th National Conference on Artificial Intelligence*, Portland, OR, 1996.

[Sukthankar96b] Sukthankar, R., D. Pomerlau, and C. Thorpe, "SHIVA: Simulated Highways for Intelligent Vehicle Algorithms," *Proceedings of the IEEE Intelligent Vehicles Symposium*, Detroit, MI, pp. 332-337, 1995.

[Sukthankar96c] Sukthankar, J. Hancock, R., D. Pomerlau, and C. Thorpe, "A simulation and Design System for Tactical Driving Algorithms," *Proceedings of the Artificial Intelligence, Simulation and Planning in High Autonomy Systems Symposium*, pp. 3-10, 1996.

[Tan96] Tan, H.-S., and S. Patwardhan, "Magnetic sensors for automatic steering control," *Intellimotion*, vol. 5, no. 2, pp. 10-11, 1996.

[Thathachar77] Thathachar, M.A.L., and R. Bhakthavathsalam, "Learning Automata Operating in Paralel Environment," *Journal of Cybernetics and Information Science*, vol. 1, p.121-127, 1977.

[TrafT96] Traffic Technology International, issues April, May 1996, UK & International Press, Surrey, UK, ISSN 1356-9252.

[TRB95] January 25, 1995 meeting of the Committee on AI, during the 74th Annual Meeting of Transportation Research Board, Washington, D. C., 1995.

[Tsetlin73] Tsetlin, M.L., *Automaton Theory and Modeling of Biological Systems*, vol. 102 in Mathematics in Science and Engineering, New York: Academic Press, 1973.

[Tsoularis93] Tsoularis, A., C. Kambhampati, and K. Warwick, "Path Planning of Robots in Noisy Workspaces Using Learning Automata," *Proceedings of the IEEE International Symposium of Intelligent Control*, Chicago, 1993.

[Tsyppkin71] Tsyppkin, Ya. Z., *Adaptation and Learning in Automatic Systems*, New York: Academic, 1971.

- [Ünsal95] Ünsal, C., J. S. Bay and P. Kachroo, "Intelligent Control Of Vehicles: Preliminary Results on the Application of Learning Automata Techniques to Automated Highway System," *Proceedings of Tools with Artificial Intelligence Symposium*, Washington DC, November 1995.
- [Ünsal96] Ünsal, C., P. Kachroo, and J. S. Bay, "Multiple Stochastic Learning Automata for Vehicle Path Control in an Automated Highway Systems, in revision for *IEEE Transactions on Systems, Man, and Cybernetics*, first submission May 1996.
- [Varaiya91] Varaiya, P., and S.E. Shladover, "Sketch of an IVHS System Architecture," *Vehicle Navigation and Information Systems Conference Proceedings*, Society of Automotive Engineers, pp. 909-922, 1991.
- [Varaiya93] Varaiya, P., "Smart Cars on Smart Roads: Problems of Control," *IEEE Transactions on Automatic Control*, vol. 38., no. 2, pp. 195-207, Feb. 1993.
- [Varshavski63] Varshavski, V.I., and I.P. Vorontsova, "On the Behavior of Stochastic Automata with Variable Structure," *Automat. Telemekh.*, vol. 24, pp. 253-360, 1963.
- [Viswanathan72] Viswanathan R., and K.S. Narendra, "Comparison of Expedient and Optimal Reinforcement Schemes for Learning Systems," *Journal of Cybernetics*, vol. 2, pp. 21-37, 1972.
- [Viswanathan73] R. Viswanathan, and K. S. Narendra, "Competitive and Cooperative Games of Variable-Structure Stochastic Automata," *Journal of Cybernetics*, vol. 3, pp. 1-23, 1973.
- [Vor65] Vorontsova, I.P., "Algorithms for Changing Automaton Transition Probabilities," *Problemi Peredachii Informatsii*, vol. 1, pp. 122-126, 1965.
- [Weber96] Weber J, and M. Atkin, "Further Results on the Use of Binocular Vision for Highway Driving," *Proceedings of the 1996 SPIE Conference on Intelligent Systems and Controls*, vol. 2902, Nov. 1996.
- [Wheeler85] Wheeler, R. M. Jr., and K. S. Narendra, "Learning Models for Decentralized Decision Making," *Automatica*, vol. 21, pp. 479-484, 1985.
- [Wigan96] Wigan, M., "Problem of Success: Privacy, Property, and Transactions," *Converging Infrastructures: Intelligent Transportation and the National Information Infrastructure*, Cambridge, MA: MIT Press, pp. 341-354, 1996.
- [Wright95] Wright, T., "Eyes on the Road : Privacy and ITS," *Traffic Technology International*, pp. 88-93, 1995.

[Xu96] Xu, T., "DYNAVIS, a Dynamic Visualization Environment for Automatic Vehicle Control Systems," *Intellimotion*, vol. 5, no. 1, pp. 2, 10, 1996.

[Yanagisawa92] Yanagisawa, T., K. Yamamoto, and Y. Kutoba, "Development of a Laser Radar System for Automobiles," in *Electronic Display Technology and Information Systems*, Society of Automotive Engineers, pp. 73-85, 1992.

[Yanakiev96] Yanakiev, D., and I. Kanellakopoulos, "Speed Tracking and Vehicle Follower Control Design for Heavy-duty Vehicles," *Vehicle system dynamics*, vol. 25, no. 4, pp. 251-276, 1996.

[Yang96] Yang, Y.-T., and B.H. Tongue, "A New Control Approach for Platoon Operations during Vehicle Exit/Entry," *Vehicle System Dynamics*, vol. 25, no. 4, pp. 305-319, 1996.

[Yu95] Yu, J., and A. Sideris, "Control of Combined Vehicle Motion : a Gain-scheduling Approach,". *Proceedings of the 5th Annual Meeting of ITS America*, vol. 1, pp. 109-115, 1995.

[Zoratti95] Zoratti, P., "Millimeter Wave Scattering Characteristics and Radar Cross Section Measurements of Common Roadway Objects," *Collision Avoidance and Automated Traffic Management Systems*, SPIE, Bellingham, WA, pp. 169-179, 1995.