

CURRICULUM VITAE

Jonas Sjöberg

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LANGUAGE KNOWLEDGE

Native language: Swedish.
Fluent: English, German.
Good: Spanish, French.

HIGHER EDUCATION

April 2000	Chalmers University of Technology, Gothenburg, Sweden.	Swedish Docent degree.
Sept 1989 – May 1995	Linköping University, Linköping, Sweden.	Ph.D. in Electrical Engineering.
Sept 1989 – April 1993	Linköping University, Linköping, Sweden.	Licentiate degree in Electrical Engineering.
April 1987 – May 1989	Swiss Federal Institute of Technology, Zürich, Switzerland.	Visiting undergraduate student.
Sept 1983 – June 1989	Uppsala University, Uppsala, Sweden.	Masters of Science, Applied Physics.

POSITIONS

Sept 2001 –	Full Professor in Mechatronics at the Department of Electrical Engineering , Chalmers University of Technology, Gothenburg, Sweden.
July 2000 –Aug 2001	Associate professor at the Department of Signals and Systems, Chalmers University of Technology, Gothenburg, Sweden.
July 1996 –June 2000	Assistant professor at the Department of Signals and Systems, Chalmers University of Technology, Gothenburg, Sweden.
June 1996 – July 1996	Visiting lecturer at the Computer Science Department, Linköping University.
June 1995 – June 1996	Postdoc position at Dept. of Chemical Engineering, System Research Group, Swiss Federal Institute of Technology, Zürich, Switzerland.
Aug 1994 –	Founded a private company MathMod, which has provided consultancy and education in non-linear modeling to several international companies, including Ericsson and Comsol AB.
Sept 1989 – May 1995	Teaching Assistant to Prof. Lennart Ljung Department of Electrical Engineering, Linköping University, Sweden.
July 1986 – June 1987	Teaching Assistant at the Department of Mathematics, Uppsala University, Sweden.
Nov 1985 – Aug 1986	Military service, Officer in the Marine, KA1 Vaxholm, Sweden.
July 1985 – Sept 1985	Software engineer, ITT Austria (now Alcatel) Vienna, Austria.
July 1984	Apprentice, ITT Austria (now Alcatel) Vienna, Austria.
June 1984	Apprentice, Ericsson, Stockholm, Sweden.

EDUCATIONAL EXPERIENCE

Responsibilities

2005-2010 Programme director of Automation and Mechatronics at Chalmers University of Technology. It is a five years programme, which leads to a bachelor degree after three years and a master degree at the end. Annually 100 students are accepted. The responsibility involves, among others, constantly

developing the program curriculum, contacts and planning with lecturers, contacts with students and students organizations.

Academic teaching

- 2001- Lecturing various undergraduate and graduate courses.
- 2001- Supervising student projects at various levels in the education.
- 1999 Participating in a course for supervisors using the “kreol” concept (keative differences).
- 1999 Supervises a project group of electrical engineering freshmen, “Introduction to Electrical Engineering”.
- 1999 Lectures a graduate course on system identification at Dept. of Signals and Systems, Chalmers University, Gothenburg.
- 1996-1998 Responsible for the introductory course on signals and systems for the computer engineering program at Chalmers. Responsibilities includes course development, lecturing, and examining. The course has approximately 100 participants.
- 1998 Lectures ”Systems and Control” for graduate and under-graduate students at Technion, Israel Institute of Technology.
- 1997 Lectures part of the course “Läraktiga datoralgoritmer”, a course in Chalmers’s continuing education program.
- 1997 Lecturer a graduate course on nonlinear system identification at Dept. of Signals and Systems, Chalmers University, Gothenburg.
- 1997 Lecturer at the Dutch Institute of Systems and Control, DISC, Summer School on “Neural Networks in Systems and Control”, Zeist, The Netherlands, June 24-27.
- 1996 Lectures a summer course “Neural Nets” at Linköping University.
- 1989-1995 During the Ph.D studies Jonas gave problem solving lectures for most courses offered at the Automatic Control Group at Linköping University.

Industry courses

- 2018-2019 Short course for Volvo Cars
- 2005-2015 Web based course on Neural networks with international audience organized by Wolfram Research, <http://www.wolfram.com/>
- 2001- Once-in-a-while: short courses for industry, national as well as international.
- 1999 Lectures Automatic Control for CHOICE – Chalmers Open Industry Courses in Engineering.
- 1999 Lectures Linear- and Nonlinear System Identification course (1 week) in Phoenix, AZ, USA, together with prof. Dan Rivera, Arizona State University.
- 1994-1998 Lectures 2-day courses on yearly basis on Neural Nets and Nonlinear System Identification for Comsol.

Additional to this Jonas has also given several on-site courses and seminars at different companies.

VISITING ACADEMIC APPOINTMENTS

- 2009-2010 Department of Fundamental Electricity and Instrumentation,
Faculty of Engineering, Vrije Universiteit Brussel, Belgium.
(one year sabbatical)
- 1998 Faculty of Agricultural Eng., Technion, Haifa Israel (6 months).
- 1997 Institute for Econometrics, Operations Research and System
Theory, Vienna University of Technology, Austria (6 months).

AWARDS

- 2017 The Håkan Frisinger Scholarship for his research on electromobility, active safety and autonomous vehicles.
- 2015 Best-paper Award, *FAST-zero 2015*
- 2011 Volvo Cars Technology Award.
- 2006 Weva Youth Paper Award, (Co-author), "The 22nd International Battery, Hybrid and Fuel Cell Electric Vehicle Symposium", Yokohama, Japan, EVS-22 Proceedings, 2006, pp 1994-2004.
- 1998 Lady Davis postdoctoral scholarship.
- 1997 Stipend from the "Ericsson funding for supporting Electrical Engineering".
- 1996 Stipend from "The foundation of Bernt Järmark's memory".
- 1990 Stipend from the "Ericsson funding for supporting Electrical Engineering".
- 1987 Scholarship from the Swiss Government for Academic Studies in Switzerland, ETH April 1987 – May 1989.
- 1984 Prize for best examination performance in Mathematics, awarded by the Department of Mathematics, Uppsala University.
- 1983 Fifth place in Swedish National Chemistry Contest, arranged by The Swedish Chemists' Society.
- 1983 Berzelius Stipend, awarded by The Swedish Chemists' Society.

POSITIONS OF TRUST

Jan 2017 –	Member of Board of Governors of IEEE ITS Society.
Sept 1993 – Aug 1994	Committee member of National Student Association for Ph.D. Students, Sweden.
Sept 1986 – April 1987	Chairman of the Student-Union for the Eng. Physics Students at Uppsala University, Sweden.
Jan 1985 – Dec 1985	Committee member of the Student-Union for the Eng. Physics Students at Uppsala University, Sweden.

OTHER COMMUNITY ACTIVITIES

- General Chair of the international conference *IEEE symposium on Intelligent Vehicles (IV) 2016*, Gothenburg.
- General Chair of the international conference *FAST-zero 2015*, Gothenburg.
- Organized an invited session *Nonlinear System Identification* at the 13th IFAC Symposium on System Identification, 27-29 August 2003, Rotterdam, The Netherlands.
- Organized an invited session *Nonlinear System Identification in Practice* at the 7th Mediterranean Conference on Control and Automation (MED99) Haifa, Israel, 1999.

INVITED KEYNOTE SPEAKER

- 2018** Plenary speaker at ICESEE, The 2nd International Conference on Energy Science and Electrical Engineering, Stockholm, Sweden
- 2018** DIFA, Daegu International Future Auto Expo, Daegu, South Korea.
- 2017** Hyundai Distinguished Speaker, University of California, Berkeley, Mars.
- 2001** MAC Summer School, September 15-21, Kranska Gora, Slovenia.
- 1998** International Workshop on Advanced Black-Box Techniques for Nonlinear Modeling: Theory and Applications, July 8-10, Katholieke Universiteit Leuven, Belgium.
- 1998** Research Workshop of the Israel Science Foundation, Non linear Time Series for Learning, Prediction and Control, Technion, Israel, June 29 - July 2.
- 1997** ICCOS onderzoeksgemeenschap's workshop on "Nonlinear identification, nonlinear time series analysis and neural identification", Leuven, Belgium, January 30th.

EDITORIAL AND REVIEWING ACTIVITIES

Editorial boards

- Associate editor of Control Engineering Practice, (Journal of the International Federation of Automatic Control), 1999-2008.

External Committee Work

- Jonas serves as faculty opponent and thesis comity member regularly. He has served as faculty opponent in Sweden, The Netherlands, Belgium, France and Spain.
- Jonas has been a member of the evaluation board for research applications for VINNOVA - The Swedish Innovation Agency, FFI - Vehicle and Traffic Safety programme, 2011-2019.
- Evaluator of research proposals for the Norwegian Research Council, 2015.

Conferences, Member of the International Program Committee

2018 IEEE Intelligent Vehicles Symposium, IV.

2017 IEEE Intelligent Vehicles Symposium, IV.

2012-2015 IEEE Intelligent Vehicles Symposium, IV.

2012-2015 IEEE International Conference on Intelligent Transportation Systems (ITSC).

2011-2015 IEEE International Instrumentation and Measurement Technology Conference.

2010 The 13th International IEEE Conference on Intelligent Transportation Systems, ITSC 2010.

2010 The 20th International Conference on Pattern Recognition, ICPR 2010.

2006 14th IFAC Symposium on System Identification, SYSID 2006. Processing (triannual conference).

2006- CONTROLO´ 2006 - The 7th Portuguese Conference on Automatic Control.

2001-2008 IEEE Workshop on Neural Networks for Signal Processing (annually).

1998 8th International Conference on Artificial Neural Networks (ICANN), September, Skövde, Sweden.

1995 International Conference on Engineering Application of Neural Networks, August, Otaniemi, Espoo, Finland.

Journal Reviews

Reviewer for the journals Automatica, IEEE Transactions on Automatic Control, IEEE Transactions on Control Systems Technology, IEEE Transactions on Neural networks, IEEE Transactions on Circuits and Systems, Automatica, Control Engineering Practice, International Journal of Control, Journal of Dynamic Systems, Measurement and Control, European Journal of Control, International Journal of Neural Systems, International Journal of Adaptive Control and Signal Processing, Computers & Chemical Engineering.

SUPERVISED Ph.D PROJECTS, (main supervisor)

- [1] G. Giordano. *Inference techniques for stochastic nonlinear system identification with application to the Wiener-Hammerstein models*. PhD thesis, Chalmers University of Technology, 2018.
- [2] M. Ali. *Decision Making and Control for Automotive Safety*. PhD thesis, Chalmers University of Technology, 2012.
- [3] N. Murgovski. *Optimal Powertrain Dimensioning and Potential Assessment of Hybrid Electric Vehicles*. PhD thesis, Chalmers University of Technology, 2012.

- [4] M. Brännström. *Decision-Making in Automotive Collision Avoidance Systems*. PhD thesis, Chalmers University of Technology, 2011.
- [5] J. Hellgren. *A Methodology for the Design of Cost Effective Hybrid and Fuel Cell Powertrains*. PhD thesis, Chalmers University of Technology, 2004.
- [6] L.S.H. Ngia. *System Modeling Using Basis Functions and Application to Echo Cancelation*. PhD thesis, Department of Signals & Systems, Chalmers University of Technology, 2000.

SUPERVISED LICENTIATE PROJECTS, (main supervisor)

- [1] M. Ali. *On Automotive Roadway Departure Prevention*. Licentiate thesis, Chalmers University of Technology, 2010.
- [2] M. Brännström. *On Threat Assessment and Decision-Making for Avoiding Automotive Vehicle Collisions*. Licentiate thesis, Chalmers University of Technology, 2009.
- [3] J. Fagerlund. *Towards Active Car Body Suspension in Railway Vehicles*. Licentiate thesis, Chalmers University of Technology, 2009.
- [4] M. Åsbogård. *On Evaluation and Optimization of Hybrid Electric Vehicle Powertrain Systems*. Licentiate thesis, Chalmers University of Technology, 2005.
- [5] A. Lundgren. *Local and Weighted Regression – Bias Reduction and Model Validation*. Licentiate thesis, Dept. of Signal & Systems, Chalmers, 2005.
- [6] L. Laine. *On Vehicle System Control Architecture for Fuel Cell- and Hybrid Electric Vehicles*. Licentiate thesis, Chalmers University of Technology, 2005.
- [7] P. Forsberg. *Modelling and Calculation Techniques for Environmental Systems*. Licentiate thesis, Chalmers University of Technology, 2003.

SUPERVISED MASTER THESIS

Jonas supervises between 5 and 10 Master's theses annually.

SOFTWARE PRODUCTS

Jonas Sjöberg is the author of Wolfram Research's Neural Network package, an add-on tool for mathematical software tool *Mathematica*. See <http://www.wolfram.com/products/applications/neuralnetworks>.

PUBLICATIONS

For recent publications, see <http://www.chalmers.se/sv/personal/Sidor/jonas-sjoberg.aspx>
 For citations, see <http://scholar.google.se/citations?user=s0Qakg77XYC&hl=sv>

Ph.D. Thesis

- [1] J. Sjöberg. *Non-linear System Identification with Neural Networks*. PhD thesis, Linköping University, Sweden, May 1995.

Licentiate Thesis

- [1] J. Sjöberg. Regularization issues in neural network models of dynamical systems. Linköping studies in science and technology. thesis no. 366, LiU-Tek-Lic-1993:08, ISBN 91-7871-072-3, ISSN 0280-7971, Department of Electrical Engineering, Linköping University, Sweden, February 1993.

Chapters in Books

- [1] J. Sjöberg and L.S.H. Ngia. Neural nets and related model structures for nonlinear system identification. In J.A.K. Suykens and J. Vanderwalle, editors, *Nonlinear Modelling, Advanced Black-Box Techniques*, pages 1–28. Kluwer Academic Publisher, 1998.
- [2] L. Ljung, J. Sjöberg, and H. Hjalmarsson. On neural network model structures in system identification. In S. Bittanti, editor, *Proc. from the NATO Advanced Summer Institute “From Identification to Learning”*, pages 162–195. Springer Verlag, 1995.

Journal Papers (Reviewed)

- [1] S. Uebel, N. Murgovski, B. Bäker, and J. Sjöberg. A two-level mpc for energy management including velocity control of hybrid electric vehicles. *IEEE Transactions on Vehicular Technology*, 68(6):5494–5505, June 2019.
- [2] J. Karlsson, N. Murgovski, and J. Sjöberg. Computationally efficient autonomous overtaking on highways. *IEEE Transactions on Intelligent Transportation Systems*, pages 1–15, 2019.
- [3] G. Giordano, S. Gros, and J. Sjöberg. An improved method for Wiener-Hammerstein system identification based on the fractional approach. *Automatica*, 94:349 – 360, 2018.
- [4] G. Giordano, V. Klass, M. Behm, G. Lindbergh, and J. Sjöberg. Model-based lithium-ion battery resistance estimation from electric vehicle operating data. *IEEE Transactions on Vehicular Technology*, 67(5):3720–3728, May 2018.
- [5] G. Giordano and J. Sjöberg. Black- and white-box approaches for cascaded tanks benchmark system identification. *Mechanical Systems and Signal Processing*, 108:387 – 397, 2018.
- [6] G. Rodrigues de Campos, P. Falcone, , R. Hult, , H. Wymeersch, and J. Sjöberg. Traffic coordination at road intersections: Autonomous decision-making algorithms using model-based heuristics. *IEEE Intelligent Transportation Systems Magazine*, 9:8–21, 2017.
- [7] E.R. Gelso and J. Sjöberg. Consistent threat assessment in rear-end near-crashes using BTN and TTB metrics, road information and naturalistic traffic data. *IEEE Intelligent Transportation Systems Magazine*, 9:74–89, 2017.
- [8] J. Nilsson, P. Falcone, M. Ali, and J. Sjöberg. Receding horizon maneuver generation for automated highway driving. *Control Engineering Practice*, 41:124–133, 2015.
- [9] A. Marconato, J. Sjöberg, J.A.K. Suykens, and J. Schoukens. Improved initialization for nonlinear state-space modeling. *Instrumentation and Measurement, IEEE Transactions on*, 63(4):972–980, 2014.
- [10] M. Brännström, E. Coelingh, and J. Sjöberg. Decision-making on when to brake and when to steer to avoid a collision. *International journal of vehicle safety*, 7(1):87–106, 2014.
- [11] M. Ali, P. Falcone, C. Olsson, and J. Sjöberg. Predictive prevention of loss of vehicle control for roadway departure avoidance. *Intelligent Transportation Systems, IEEE Transactions on*, 14(1):56–68, 2013.
- [12] M. Ali, E. Gelso, and J. Sjöberg. Automotive threat assessment design for combined braking and steering maneuvers. *Vehicular Technology, IEEE Transactions on*, PP(99):1–1, 2013.
- [13] N. Murgovski, L. Mårdh Johannesson, and J. Sjöberg. Engine on/off control for dimensioning hybrid electric powertrains via convex optimization. *Vehicular Technology, IEEE Transactions on*, 62(7):2949–2962, 2013.
- [14] M. Ali, P. Falcone, C. Olsson, and J. Sjöberg. Predictive prevention of loss of vehicle control for roadway departure avoidance. *Intelligent Transportation Systems, IEEE Transactions on*, 14(1):56–68, March, 2013.
- [15] P. Falcone, M. Ali, and J. Sjöberg. Predictive threat assessment via reachability analysis and set invariance theory. *Intelligent Transportation Systems, IEEE Transactions on*, 12(4):1352–1361, Dec. 2012.

- [16] A. Marconato, J. Sjöberg, and J. Schoukens. Initialization of nonlinear state-space models applied to the Wiener-Hammerstein benchmark. *Control Engineering Practice*, 20(11):1126 – 1132, 2012. Special Section: Wiener-Hammerstein System Identification Benchmark.
- [17] J. Sjöberg, L. Lauwers, and J. Schoukens. Identification of Wiener-Hammerstein models: Two algorithms based on the best split of a linear model applied to the SYSID’09 benchmark problem. *Control Engineering Practice*, 20(11):1119 – 1125, 2012. Special Section: Wiener-Hammerstein System Identification Benchmark.
- [18] J. Sjöberg and J. Schoukens. Initializing Wiener-Hammerstein models based on partitioning of the best linear approximation. *Automatica*, 48(2):353–359, 2012.
- [19] N. Murgovski, L. Johannesson, J. Sjöberg, and B. Egardt. Component sizing of a plug-in hybrid electric powertrain via convex optimization. *Journal of Mechatronics*, 1:106–120, 2012.
- [20] P. Falcone, M. Ali, and J. Sjöberg. Predictive threat assessment via reachability analysis and set invariance theory. *Intelligent Transportation Systems, IEEE Transactions on*, 12(4):1352 –1361, dec. 2011.
- [21] N. Murgovski, J. Sjöberg, and J. Fredriksson. A methodology and a tool for evaluating hybrid electric powertrain configurations. *Int. J. Electric and Hybrid Vehicles*, 3(3):219–245, 2011.
- [22] M. Brännström, E. Coelingh, and J. Sjöberg. Model-based threat assessment for avoiding arbitrary vehicle collisions. *IEEE Transactions on Intelligent Transportation Systems*, 11(3):658–669, 2010.
- [23] J. Sjöberg, P.O. Gutman, M. Agarwal, and M. Bax. Nonlinear controller tuning based on a sequence of identifications of linearized time-varying models. *Control Engineering Practice*, 17(2):311–321, Feb. 2009.
- [24] J. Sjöberg, F. De Bruyne, M. Agarwal, B.D.O Anderson, M. Gevers, F.J. Kraus, and N. Linard. Iterative controller optimization for nonlinear systems. *Control Engineering Practice*, 11(9):1079–1089, Sept 2003.
- [25] J. Sjöberg and M. Agarwal. Trajectory tracking in batch processes using neural controllers. *Engineering Applications of Artificial Intelligence*, 15(1):41–51, Aug 2002.
- [26] L.S.H. Ngia and J. Sjöberg. Efficient training of neural nets for nonlinear adaptive filtering using a recursive levenberg-marquardt algorithm. *IEEE Trans. on Signal Processing*, 48(7):1915–1927, July 2000.
- [27] P. Pucar and J. Sjöberg. On the hinge finding algorithm for hinging hyperplanes. *IEEE Trans. on Information Theory*, 44(3):1310–1319, May 1998.
- [28] J. Sjöberg, Q. Zhang, L. Ljung, A. Benveniste, B. Deylon, P-Y. Glorennec, H. Hjalmarsson, and A. Juditsky. Non-linear black-box modeling in system identification: a unified overview. *Automatica*, 31(12):1691–1724, 1995.
- [29] A. Juditsky, H. Hjalmarsson, A. Benveniste, B. Deylon, L. Ljung, J. Sjöberg, and Q. Zhang. Nonlinear black-box models in system identification: Mathematical foundations. *Automatica*, 31(12), December 1995.
- [30] J. Sjöberg and L. Ljung. Overtraining, regularization, and searching for minimum with application to neural nets. *Int. J. Control*, 62(6):1391–1407, 1995.

Conference Papers

- [1] A. Toytziaridis, P. Falcone, and J. Sjöberg. A data-driven markovian framework for multi-agent pedestrian collision risk prediction. In *2019 IEEE Intelligent Transportation Systems Conference (ITSC)*, pages 777–782, Oct 2019.
- [2] A. Ilka, N. Murgovski, and J. Sjöberg. An iterative newton’s method for output-feedback lqr design for large-scale systems with guaranteed convergence. In *2019 18th European Control Conference (ECC)*, pages 4849–4854, June 2019.
- [3] J. Karlsson, N. Murgovski, and J. Sjöberg. Optimal trajectory planning and decision making in lane change maneuvers near a highway exit. In *2019 18th European Control Conference (ECC)*, pages 3254–3260, June 2019.
- [4] A. Ilka, N. Murgovski, J. Fredriksson, and J. Sjöberg. Air-management and fueling strategy for diesel engines from multi-layer control perspective. In *9th IFAC Symposium on Advances in Automotive Control AAC 2019*, 2019.

- [5] T. Tram, I. Batkovic, M. Ali, and J. Sjöberg. Learning when to drive in intersections by combining reinforcement learning and model predictive control. In *2019 IEEE Intelligent Transportation Systems Conference (ITSC)*, pages 3263–3268, Oct 2019.
- [6] S.R. Chowdhury, L. Tornberg, R. Halvfordsson, J. Nordh, A.S. Gustafsson, J. Wall, M. Westerberg, A. Wirehed, L. Tilloy, H. Zhanying, T. Haoyuan, M. Pan, and J. Sjöberg. Automated augmentation with reinforcement learning and gans for robust identification of traffic signs using front camera images. In *Proc. Asilomar Conference on Signals, Systems and Computers*, 2019.
- [7] M. A. Nazari, A. Ozelikkale, M. Zanon, T. Charalambous, J. Sjöberg, and H. Wymeersch. Impact of communication frequency on remote control of automated vehicles. In *2018 IEEE 29th Annual International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC)*, pages 96–100, Sep. 2018.
- [8] R. J. Ansari, Y. Karayiannidis, and J. Sjöberg. Physical human-robot interaction through a jointly-held object based on kinesthetic perception. In *2018 27th IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN)*, pages 1099–1104, Aug 2018.
- [9] T. Tram, A. Jansson, R. Grönberg, M. Ali, and J. Sjöberg. Learning negotiating behavior between cars in intersections using deep q-learning. In *Intelligent Transportation Systems, Hawaii, USA*, 2018.
- [10] J. Karlsson, J. Sjöberg, and N. Murgovski. Intersection crossing with reduced number of conflicts. In *Intelligent Transportation Systems, Hawaii, USA*, 2018.
- [11] G. Giordano and J. Sjöberg. Maximum likelihood identification of Wiener-Hammerstein system with process noise. *IFAC-PapersOnLine*, 51(15):401 – 406, 2018. 18th IFAC Symposium on System Identification SYSID 2018.
- [12] M. A. Nazari, T. Charalambous, J. Sjöberg, and H. Wymeersch. Remote control of automated vehicles over unreliable channels. In *2018 IEEE Wireless Communications and Networking Conference (WCNC)*, pages 1–6, April 2018.
- [13] J. Karlsson, N. Murgovski, and J. Sjöberg. Comparison between mixed-integer and second order cone programming for autonomous overtaking. In *19th International Conference on Intelligent Transportation Systems Limassol, Cyprus*, 2018.
- [14] G. Giordano and J. Sjöberg. Consistency aspects of Wiener-Hammerstein model identification in presence of process noise. In *Proceedings of 2016 IEEE 55th Conference on Decision and Control (CDC 2016); Las Vegas; United States; 12-14 December 2016*, pages Art no 7798724, Pages 3042–3047, 2016.
- [15] L. Riegger, M. Carlander, N. Skog Lidander, N. Murgovski, and J. Sjöberg. Centralized mpc for autonomous intersection crossing. In *IEEE Intelligent Transportation Systems Conference, November 1-4, 2016, Rio de Janeiro, Brazil (2016)*, pages 1372–1377, 2016.
- [16] J. Karlsson, N. Murgovski, and J. Sjöberg. Temporal vs. spatial formulation of autonomous overtaking algorithms. In *IEEE Intelligent Transportation Systems Conference, November 1-4, 2016, Rio de Janeiro, Brazil*, 2016.
- [17] S. Hosseini, Hakan H. Köroğlu, and J. Sjöberg. Estimation of parameters and delay in driver models using l1-regularization. In *Proceedings of 2016 European Control Conference, ECC2016; Aalborg, Denmark; 29 June - 1 July 2016*, pages 945–950, 2016.
- [18] S. Hosseini, M. Murgovski, G. Rodrigues de Campos, and J. Sjöberg. Adaptive forward collision warning algorithm for automotive applications. In *American Control Conference*, pages 5982–5987, 2016.
- [19] G. Giordano and J. Sjöberg. A time-domain fractional approach for Wiener-Hammerstein systems identification. In *17th IFAC Symposium on System Identification*, pages 1232–1237, 2015.
- [20] N. Murgovski, S. Marinkov, D. Hilgersom, B. de Jager, M. Steinbuch, and J. Sjöberg. Powertrain sizing of electrically supercharged internal combustion engine vehicles. In *IFAC Workshop on Engine and Powertrain Control, Simulation and Modeling E-COSM*, pages 2405–8963, 2015.
- [21] N. Murgovski and J. Sjöberg. Predictive cruise control with autonomous overtaking. In *54th IEEE Conference on Decision and Control (CDC), Osaka Japan, 15-18 Dec 2015*, pages 644–649, 2015.
- [22] N. Murgovski, L. Johannesson, X. Hu, B. Egardt, and J. Sjöberg. Convex relaxations in the optimal control of electrified vehicles. In *American Control Conference*, pages 2292–2298, 2015.

- [23] R.G de Campos P., Falcone H., Wymeersch, R. Hult, and J. Sjöberg. Cooperative receding horizon conflict resolution at traffic intersections. In *IEEE Conference on Decision and Control*, 2014.
- [24] Malin Sundbom, Paolo Falcone, and Jonas Sjöberg. Online driver behavior classification using probabilistic arx models. In *Intelligent Transportation Systems-(ITSC), 2013 16th International IEEE Conference on*, pages 1107–1112. IEEE, 2013.
- [25] Soma Tayamon and Jonas Sjöberg. Modelling of selective catalytic reduction systems using discrete-time linear parameter varying models. *Proceedings of the 19th IFAC World Congress*, 2014.
- [26] G.R. de Campos, Paolo P. Falcone, and J. Sjöberg. Autonomous cooperative driving: A velocity-based negotiation approach for intersection crossing. In *Intelligent Transportation Systems-(ITSC), 2013 16th International IEEE Conference on*, pages 1456–1461. IEEE, 2013.
- [27] J. Nilsson, M. Ali, P. Falcone, and J. Sjöberg. Predictive manoeuvre generation for automated driving. In *16th International IEEE Annual Conference on Intelligent Transportation Systems*, 2013.
- [28] J. Nilsson and J Sjöberg. Strategic decision making for automated driving on two-lane, one way roads using model predictive control. In *Intelligent Vehicles Symposium (IV), 2013 IEEE*, pages 1253–1258. IEEE, 2013.
- [29] Stefan Bergquist, Christian Grante, Jonas Fredriksson, and Jonas Sjöberg. Automation for improved safety in roadside construction. In *Proceedings of the 30th International Symposium on Automation and Robotics in Construction and Mining*, volume 2013, 2013.
- [30] M. Ali, P. Falcone, and J. Sjöberg. Threat assessment design under driver parameter uncertainty. In *Decision and Control (CDC), 2012 IEEE 51st Annual Conference on*, pages 6315–6320, Dec.
- [31] N. Murgovski, L. Johannesson, and J. Sjöberg. Convex modeling of energy buffers in power control applications. In *IFAC Workshop on Engine and Powertrain Control Simulation and Modeling*, pages 92–99, 2012.
- [32] N. Murgovski, L. Johannesson, A. Grauers, and J. Sjöberg. Dimensioning and control of a thermally constrained double buffer plug-in hev powertrain. In *51st IEEE Conference on Decision and Control*, pages 6346–6351, 2012.
- [33] H. Hjalmarsson and J. Sjöberg. A Mathematica toolbox for signals, systems and identification system identification. In *Proc. 16th IFAC Symposium on System Identification Square - Brussels Meeting Centre, Belgium*, pages 1541–1546, July 2012.
- [34] A. Marconato, J. Sjöberg, J. Suykens, and J. Schoukens. Separate initialization of dynamics and nonlinearities in nonlinear state-space models. In *Proc. of 2012 IEEE International Instrumentation and Measurement Technology Conference (I2MTC 2012)*, 2012.
- [35] A. Marconato, J. Sjöberg, J. Suykens, and J. Schoukens. Identification of the silverbox benchmark using nonlinear state-space models. In *Proc. of the 16th IFAC Symposium on System Identification (SYSID 2012)*, 2012.
- [36] M. Ali, P. Falcone, and J. Sjöberg. Model-based threat assessment for lane guidance systems. In *American Control Conference, San Francisco, CA, USA*, pages 4586–4591, June 2011.
- [37] M. Ali, P. Falcone, and J. Sjöberg. Model-based threat assessment in semi-autonomous vehicles with model parameter uncertainties. In *50th IEEE Conference on Decision and Control and European Control Conference, Orlando, FL, USA*, Dec. 2011.
- [38] M. Ali, C. Olsson, and J. Sjöberg. Real-time implementation of a novel safety function for prevention of loss of vehicle control. In *IEEE Intelligent Transportation Systems Conference (ITSC), Washington, USA*, Oct. 2011.
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