Tim Allan Wheeler

Department of Aeronautics and Astronautics
496 Lomita Mall
Durand Building, Room 255
Stanford, CA 94305

Email: wheelert@stanford.edu

Academic history

2016 Stanford University, M.S., Aeronautics and Astronautics
2013 University of California, San Diego, B.S., Aerospace Engineering
Summa Cum Laude

Employment record

2013–*pres.* Ph.D. Candidate, Department of Aeronautics and Astronautics, Stanford University
2016 Visiting Student Researcher, TU Darmstadt, FZD Automotive Lab
2014 Research Intern, Autonomous Driving Group, Robert Bosch LLC
2012–2013 Engineering Intern, Dynamics & Loads, SpaceX
2012 Assistant Engineer, Air Sea Interaction Research Lab, Scripps Institute of Oceanography
2012 Project Assistant, Aerospace Engineering Department, U.C. San Diego
2009–2012 Payload Engineer, Near Space Balloon Team, U.C. San Diego
2010–2011 Teaching Assistant, Aerospace Engineering Department, U.C. San Diego
2010–2011 Research Intern, Aerospace Engineering Department, U.C. San Diego
2009 Junior Researcher, NASA DEVELOP Program, Ames Research Center

Leadership

2016–2017 Head of SISL Automotive
2015–2016 Mentor to Jeremy Morton, Stanford Aeronautics and Astronautics Graduate Student
2015–2016 Mentor to Yi-Chun Chen, Stanford CME Graduate Student
2016 Mentor to Eric Hong, Research Experience for Undergraduates Intern
2015 Mentor to Deon-Pilar Petgrave, Army High Performance Computing Research Intern
2014 Mentor to Julien Kawawa-Beaudan, Research Experience for Undergraduates Intern

Activities and awards

Invited presentations

1. Machine Intelligence in Autonomous Vehicles Summit, REWORK, *Establishing Trust in Autonomous Vehicles*, 2017.

2. Automated Vehicles Symposium, AUVSI, *Establishing Trust in Autonomous Vehicles, an Aerospace Perspective*, 2016.
3. Stanford AA228 - Decision Making Under Uncertainty, Stanford, *Dynamic Bayesian Networks in Automotive Safety System Validation*, 2015.
4. Stanford, CARS, *Traffic Propagation Models for Estimating Collision Risk*, 2015.

Professional service

1. Conference Proposal and Logistics, Open Source Software for Decision Making Workshop, 2017.
2. Conference Logistics, Stanford/SNU Autonomous Driving Workshop, 2015.

Review activities

1. IEEE Intelligent Transportation Systems Conference.
2. IEEE Intelligent Vehicles Symposium.
3. IEEE Sensors Journal.
4. IEEE Transactions on Intelligent Transportation Systems.
5. Journal of Aerospace Information Systems.
6. Robotics: Science and Systems.

Awards

1. Best Workshop Paper Award, Second Place, IEEE ITSC, 2015.
2. Burt and Deedee McMurtry Fellow, Stanford University, 2014.
3. Dep. Award for Excellence in Leadership and Service, U.C. San Diego, 2014.
4. IEEExtreme Programming Competition West Coast Regional Chamption, IEEE, 2012.
5. IEEExtreme Programming Competition West Coast Regional Chamption, IEEE, 2011.
6. Reuben H. Fleet Chana Scholarship, AIAA, 2011.
7. Stout Merit Scholarship, U.C. San Diego, 2011.

Bibliographical information

Books

1. M. Kochenderfer and T. A. Wheeler, *Algorithms for Optimization*. MIT Press, 2018, *in preparation and under publishing contract.*

Journal articles

1. Y. Chen, T. A. Wheeler, and M. J. Kochenderfer, *Learning discrete bayesian networks from continuous data*, 2016.
2. M. Egorov, Z. Sunberg, E. Balaban, T. Wheeler, J. Gupta, and M. Kochenderfer, "Pomdps.jl: A framework for sequential decision making under uncertainty," *Journal of Machine Learning Research*, 2016.
3. J. Morton, T. A. Wheeler, and M. J. Kochenderfer, "Human driver acceleration predictions using recurrent neural networks," *IEEE Transactions on Intelligent Transportation Systems*, 2016.

Conference papers

1. A. Kuefler, J. Morton, T. A. Wheeler, and M. Kochenderfer, *Imitating driver behavior with generative adversarial networks*, 2017.
2. D. Phillips, T. A. Wheeler, and M. Kochenderfer, *Generalizable intention prediction of human drivers at intersections*, 2017.
3. T. A. Wheeler, M. Holder, H. Winner, and M. Kochenderfer, *Deep stochastic radar models*, 2017.
4. T. A. Wheeler and M. J. Kochenderfer, "Factor graph scene distributions for automotive safety analysis," in *IEEE International Conference on Intelligent Transportation Systems (ITSC)*, 2016.
5. T. A. Wheeler, P. Robbel, and M. J. Kochenderfer, "Analysis of microscopic behavior models for probabilistic modeling of driver behavior," in *IEEE International Conference on Intelligent Transportation Systems (ITSC)*, 2016.
6. T. A. Wheeler, P. Robbel, and M. J. Kochenderfer, "Initial scene configurations for highway traffic propagation," in *IEEE International Conference on Intelligent Transportation Systems (ITSC)*, 2015.
7. T. A. Wheeler, P. Robbel, and M. J. Kochenderfer, "Traffic propagation models for estimating collision risk," in *IEEE International Conference on Intelligent Transportation Systems (ITSC)*, 2015.
8. M. E. Newcomer, J. E. Bird, S. M. Sabatine, G. C. Sady, A. M. Stalzer, T. A. Wheeler, and J. W. Skiles, "Remote sensing of bark beetle infestation in sequoia national park," in *American Geophysical Union Conference*, 2009.