

# Complementary Material to Concepts in Testing of Autonomous Systems: Academic Literature and Industry Practice

Table III: Selected papers for literature review

#	Author(s)	Title	Type of Paper	Year	Type of Research	Ref.
1	Harel et al.	Autonomics: In Search of A Foundation for Next-generation Autonomous Systems	Journal	2020	Theoretical	[1]
2	J. Sifakis	Autonomous Systems – An Architectural Characterization	Book Chapter	2019	Technical	[16]
3	Klas et al.	A Large-Scale Technology Evaluation Study: Effects of Model-based Analysis and Testing	Conference	2015	Technical	
4	C. Berger	Accelerating Regression Testing for Scaled Self-Driving Cars with Lightweight Virtualization – A Case Study	Conference	2015	Technical	
5	Niebuhr et al.	Achieving Dependable Component Bindings in Dynamic Adaptive Systems - A Runtime Testing Approach	Conference	2009	Technical	
6	Gambi et al.	AsFault: Testing Self-Driving Car Software Using Search-Based Procedural Content Generation	Conference	2019	Technical	[31]
7	Mauritz et al.	Assuring the Safety of Advanced Driver Assistance Systems Through a Combination of Simulation and Runtime Monitoring	Book Chapter	2016	Technical	[34]
8	J. Straub	Automated Testing of A Self-driving Vehicle System	Conference	2017	Technical	
9	A. Gambi	Automatically Reconstructing Car Crashes from Police Reports for Testing Self-Driving Cars	Conference	2019	Technical	
10	Chen et al.	Autonomous Vehicle Testing and Validation Platform: Integrated Simulation System with Hardware in the Loop	Conference	2018	Technical	[6]
11	Huang et al.	Autonomous Vehicles Testing Methods Review	Conference	2016	Survey	[28]
12	J. Sifakis	Can We Trust Autonomous Systems? Boundaries and Risks	Book Chapter	2019	Technical	[2]
13	H. Schoner	Challenges and Approaches for Testing of Highly Automated Vehicles	Book Chapter	2016	Theoretical	
14	Koopman et al.	Challenges in Autonomous Vehicle Testing and Validation	Journal	2016	Theoretical	[17]
15	Pfeffer et al.	Continuous Development of Highly Automated Driving Functions with Vehicle-in-the-Loop Using the Example of Euro NCAP Scenarios	Book Chapter	2016	Technical	[23]
16	Z. Tahir	Coverage based testing for V&V and Safety Assurance of Self-driving Autonomous Vehicles: A Systematic Literature Review	Conference	2020	SLR	
17	Banerjee et al.	Cross-Layer Control Adaptation for Autonomous System Resilience	Conference	2018	Technical	
18	Klus et al.	DAiSI—A Component Model and Decentralized Configuration Mechanism for Dynamic Adaptive Systems	Conference	2014	Technical	
19	Bach et al.	Data-driven Development, A Complementing Approach for Automotive Systems Engineering	Conference	2017	Theoretical	[24]
20	Tian et al.	DeepTest: Automated Testing of Deep-Neural-Network-driven Autonomous Cars	Conference	2018	Technical	[25]
21	Coelingh et al.	Driving Tests for Self-driving Cars	Journal	2018	Technical	
22	Carleton et al.	Expert Perspectives on AI	Journal	2020	Theoretical	
23	Luckcuck et al.	Formal Specification and Verification of Autonomous Robotic Systems: A Survey	Journal	2019	Survey	
24	Felmstrom et al.	From Natural Language Requirements to Passive Test Cases Using Guarded Assertions	Conference	2018	Technical	
25	Zhang et al.	Machine Learning Testing: Survey, Landscapes and Horizons	Journal	2020	Survey	[9]
26	Lindvall et al.	Metamorphic Model-Based Testing of Autonomous Systems	Conference	2017	Technical	[35]
27	Tao et al.	On the Industrial Application of Combinatorial Testing for Autonomous Driving Functions	Conference	2019	Technical	[18]
28	Kanuss et al.	Paving the Roadway for Safety of Automated Vehicles: An Empirical Study on Testing Challenges	Conference	2017	Survey	[4]
29	Hutchison et al.	Robustness Testing of Autonomy Software	Conference	2018	Technical	
30	Borg et al.	Safely Entering the Deep: A Review of Verification and Validation for Machine Learning and a Challenge Elicitation in the Automotive Industry	Journal	2019	Survey	[7]
31	Porres et al.	Scenario-based Testing of a Ship Collision Avoidance System	Conference	2020	Technical	[32]
32	Jiseob et al.	Suggestion of Testing Method for Industrial Level Cyber-Physical System in Complex Environment	Conference	2019	Theoretical	
33	Kang et al.	Test Your Self-Driving Algorithm: An Overview of Publicly Available Driving Datasets and Virtual Testing Environments	Journal	2019	Survey	[29]
34	Zhang et al.	Testing and Verification of Neural-Network-Based Safety-Critical Control Software: A Systematic Literature review	Journal	2020	SLR	[8]
35	Wotawa et al.	Testing Autonomous and Highly Configurable Systems: Challenges and Feasible Solutions	Book Chapter	2017	Technical	[26]
36	Helle et al.	Testing of Autonomous Systems – Challenges and Current State-of-the-Art	Journal	2016	Survey	[3]
37	Mazzega et al.	Testing of Highly Automated Driving Functions	Journal	2016	Technical	[19]
38	Aniculaesei et al.	Toward a Holistic Software Systems Engineering Approach for Dependable Autonomous Systems	Conference	2018	Technical	[21]
39	Helle et al.	Towards an Integrated Methodology for the Development and Testing of Complex Systems with Example	Journal	2014	Technical	
40	Heck et al.	Towards Autonomous Self-Tests at Runtime	Conference	2016	Technical	
41	Aniculaesei et al.	Towards the Verification of Safety-critical Autonomous Systems in Dynamic Environments	Journal	2016	Technical	[30]
42	Agaram et al.	Validation and Verification of Automated Road Vehicles	Book Chapter	2016	Theoretical	[5]
43	Ebert et al.	Validation of Autonomous Systems	Journal	2019	Technical	
44	Paulweber et al.	Validation of Highly Automated Safe and Secure Systems	Book Chapter	2017	Technical	[20]
45	Menzies et al.	Verification and Validation and Artificial Intelligence	Book Chapter	2005	Theoretical	