CONTENTS

1	Introduction 9			
	1.1	1 Dependability and Safety 10		
	1.2	System	n Monitoring 14	
	1.3	Motiv	ration and Goal of this work 17	
2	Automotive - State of art 19			
	2.1	Autonomous Cars as CPS 19		
	2.2	Safety	And Autonomous Vehicles 21	
	2.3	Contr	oller - Checker Problem 23	
3	System Analysis Method 31			
	3.1	Introduction and Preliminaries 31		
	3.2	Experimental Method 35		
		3.2.1	Controller Testing 36	
		3.2.2	Monitor Testing 39	
		3.2.3	Controller Retraining 43	
4	Method Implementation And Results 47			
	4.1	1.1 Tools and software 47		
		4.1.1	Carla Simulator 47	
		-	Controller Implementation 51	
		4.1.3	Safety-Monitor Implementation 52	
		-	imental Activity 55	
	4.3	Results 58		
			Phase 1 - Controller Testing 58	
			Phase 2 - Monitor Testing 65	
			Phase 3 - Retraining and Retesting 70	
5	Con	Conclusions 89		