Contents

1	Introduction					
	1.1	Evolution of Reinforcement Learning	1			
		1.1.1 Basic Reinforcement Learning				
		1.1.2 Inverse Reinforcement Learning	5			
		1.1.3 Multi-agent Reinforcement Learning				
		1.1.4 Meta Reinforcement Learning	7			
		1.1.5 Hierarchical Reinforcement Learning	8			
		1.1.6 Multi-Task Reinforcement Learning	9			
	1.2	Deep Reinforcement Learning				
	1.3	Applications of Reinforcement Learning	10			
	1.4	Summary	11			
	Refe	erences	11			
•	N.T. 4	Land Carlo Dan Dan Carlo and All and Carlo	10			
2	2.1	Chematics in Deep Reinforcement Learning				
	2.1	Reinforcement Learning Foundations				
	2.2	Deep Learning Foundations				
	2.3	Deep Reinforcement Learning Foundations				
	2.4	2.4.1 Offline Performance Metrics				
		2.4.2 Online Performance Metrics				
		2.4.2 Online Performance Wettles 2.4.3 A/B Testing				
		2.4.4 Interleaving				
	Dofo	z.4.4 Interieaving				
	Keic	actices	13			
3	Dee	p Reinforcement Learning Models	17			
	3.1	General Functionalities of Deep Models	17			
		3.1.1 Policy Approximation Based	17			
		3.1.2 Value Function Approximation Based	17			
	3.2	Deep Embeddings	17			
	3.3	Transformers in Reinforcement Learning Models	17			
	3.4	CNN-based Reinforcement Learning Models	17			
	3.5	RNN-based Reinforcement Learning Models	17			
	3.6	Hybrid Deep Reinforcement Learning Models	17			
	3.7	Hybrid Reinforcement Learning Models	17			
	3.8	Advanced Network Components	17			
		3.8.1 Attention	17			

4	Empirical Deep Reinforcement Learning Systems						
	4.1		Robotics				
	4.2						
	4.3	RL In Medications					
	4.4						
	4.5	RL In	Civilization	19			
	4.6		Simulations	19			
5	Performance Evaluations						
		5.0.1	Offline Performance Metrics				
		5.0.2	Online Performance Metrics	21			
		5.0.3	A/B Testing	21			
		5.0.4	Interleaving				
6	Adva	Advanced Topics					
	6.1		prization	23			
	6.2		ment of Target Network				
	6.3	_	Drift and the Solutions				
	6.4	•		23			
	6.5		Resistance	23			
	6.6	Privac	ry Preservation	23			
	6.7	Person	nalization	23			
7	Empirical Researches Ongoing						
	7.1		ations of Neuroscience				
	7.2		e of Deep Reinforcement Learning				
A	App	endix		27			
			Appendix				
Glo	ssary			31			
Ind	ex			33			