

CS 302/ 633 Artificial Intelligence						
Winter 2021-22						
Link to Notes						
Codes Repository	https://github.com/pratikiiitv/cs302					
	https://github.com/pratikiiitv/graphicalmodels					
Lab Manual						
Previous Videos		https://drive.google.com/drive/folders/1bLlwEgWPO1UXTsurlUTSNISpCOaXAGGC?usp=sharing				
Lecture	Date	Topics Covered	Link to Video	Duration (Minutes)	References	Additional Resources
1	17/01/2022	Introduction	https://drive.google.com/file/d/1_O-p9xKLppYXAltyT-Yd3tM7gtKaS-81/view?usp=sharing	56	RN, DK	L3.0, GEB, MA
			https://drive.google.com/file/d/1SQAn-2eaCqSQGrDQkSh8xSXPIJtJ3SS/view?usp=sharing	53		
2	18/01/2022	State Space Search - I (Infrastructure)	https://drive.google.com/file/d/19js7Wr_7hk6nz_4eoao6KFkpL_92C0Wu/view?usp=sharing	61	RN, DK	
			https://drive.google.com/file/d/1di7Qy-JtT_v_CaTxZvpN2bVEmB-a7usn/view?usp=sharing	47		
3	20/01/2022	State Space Search - II (Uninformed)	https://drive.google.com/file/d/1c8JOI1ZIEyyBuUQOIZSmUqjPDI6kA2zF/view?usp=sharing	56	RN, DK	
			https://drive.google.com/file/d/1WFWqyQJSqZ8rqQoax4mVOcRvz574krwj/view?usp=sharing	60		
4	24/01/2022	State Space Search - III (Uninformed, Informed)	https://drive.google.com/file/d/1cZBmAmM_KcRHn67IRbXrYyh6k19oG4yO/view?usp=sharing	51	RN, DK	
			https://drive.google.com/file/d/19m8oYzXc2WEXZi7veJrmW8EuXZXQbypA/view?usp=sharing	43		
5	25/01/2022	State Space Search - IV (Informed)	https://drive.google.com/file/d/16gtQwEt6kfCBdhVGYB9dxxKkUP1suWnr/view?usp=sharing	50	RN, DK	
			https://drive.google.com/file/d/1gNwPrt9MdoO2lkVzN0eJfmlZsvztKp8J/view?usp=sharing	53		
6	27/01/2022	State Space Search - V (Informed, Optimality of A*, Heuristic design)		56	RN, DK	https://www.sfu.ca/~jtmulhol/math302/notes/permutation-puzzles-book.pdf
			https://drive.google.com/file/d/10il_1kRuvk1-KZ9VcwnbQ5xuwaXsHkP/view?usp=sharing	50		
7	31/1/2022	Simulated Annealing - I	https://drive.google.com/file/d/18037rOaZHUh7SKDK5mbwIQDNBI0CSRc/view?usp=sharing	57	RN, DK	Simulated annealing: From basics to applications Daniel Delahaye, Supatcha Chaimatanan, Marcel Mongeau
			https://drive.google.com/file/d/1pLqMGEcf3n8rxlIKfDdgv-0ORJycbxzE/view?usp=sharing	41		
8	1/2/2022	Simulated Annealing - II	https://drive.google.com/file/d/1QGJqUm4KU73TeooOx4F2BabwhJjubhiE/view?usp=sharing	47	RN, DK, +Ref	https://hal-enac.archives-ouvertes.fr/hal-01887543/document
			https://drive.google.com/file/d/1uvPED9nRqAqy3r5FWVeS-Dhx0iFdvayb/view?usp=sharing	50		
9	3/2/2022	MCMC and Genetic Algorithm (Left as an exercise, read reference)	https://drive.google.com/file/d/1MEMxlZXJKYqGcmVllxV1oRbpf2Z7Yp0j/view?usp=sharing	56	RN, DK, +Ref	1) https://math.uchicago.edu/~shmuel/Network-course-readings/MCMCRev.pdf , 2) https://www.cs.jhu.edu/~ayuille/courses/Sta202C-Spring10/ga_tutorial.pdf
			https://drive.google.com/file/d/1H1lqEZkVuaQDY7tnqZgwSP5opxOclL4/view?usp=sharing	43		
10	7/2/2022	Adversarial Search - I (Game Playing and Value Backup, Minimax)	https://drive.google.com/file/d/1QwWbUyXR3j02LBr-ps82By_lYy_jc6lH/view?usp=sharing	56	RN, DK	
			https://drive.google.com/file/d/1Ui0U4Z4vZvHs5-v6HLKPd3f_7EXvizH/view?usp=sharing	48		
11	8/2/2022	Adversarial Search - II (Alpha-Beta Pruning)	https://drive.google.com/file/d/1sh4fyU0c0ARk9MBf8N13xbB260uuv37/view?usp=sharing	50	RN, DK	
			https://drive.google.com/file/d/1ue5DK6UGzWWd2EgnF4RNk7lchOKYbHn6/view?usp=sharing	50		
12	10/2/2022	Adversarial Search - III	https://drive.google.com/file/d/1gYzLWvEkFUA--JlKg-6tj_MeILV0t8RT/view?usp=sharing	53	RN, DK	
			https://drive.google.com/file/d/1tfYvhO4-Y3vbUCoaFP5etQedL7X0ZThj/view?usp=sharing	41		
13	14/2/2022	Revisiting Probabilistic Inference (PPL) - I	https://drive.google.com/file/d/1gBx5LtKVNE6PcKqTwtB0J16WFTv8PEy/view?usp=sharing	57	RN, DK + Ref	webppl.org
			https://drive.google.com/file/d/11jT0wxsKiOLbvBAcTILJrpRqW1VG7QgO/view?usp=sharing	49		
14	15/2/2022	Revisiting Probabilistic Inference (PPL) - II	https://drive.google.com/file/d/15U5wOjtkO_oJ5WTeiUUmxfedv1GGgEfR/view?usp=sharing	40	RN, DK + Ref	
			https://drive.google.com/file/d/1nW6KKS-Hbak8zVWcuHuXqjow7T0EbAJG9/view?usp=sharing	56		
15	17/2/2022	Graphical Models - I (DGM)	https://drive.google.com/file/d/1mfJziml7_3vjUrWqO8rixlZ1EvZB2zI9/view?usp=sharing	52	RN, DK + Ref	(1) http://web.mit.edu/jmn/www/6.034/d-separation.pdf (2) https://ftp.cs.ucla.edu/pub/stat_ser/r116.pdf
			https://drive.google.com/file/d/1mmoD76wl2FzhRL0DhpA5FW2RLUru_ekV/view?usp=sharing	46		

16	21/2/2022	Graphical Models - II (DGM)	https://drive.google.com/file/d/1zvvrQitRCE8ZdDYILZuaXWvZwnMUwTyd/view?usp=sharing	57	RN, DK + Ref	I (3) https://www.bnlearn.com/about/teaching/sli-des-bnshort.pdf (4) https://gauss.inf.um.es/umur/xjurponencias/talleres/J3.pdf (5) Bayesian Networks and Decision Graphs by Jensen and Nielsen (6) Markov Random Fields and Images, Patrick Perez https://ptrckprz.github.io/files/1998_Perez_CWIC11(4).pdf
			https://drive.google.com/file/d/15kaSgQ-jLqZMUeFfyDaJPbNaD1oIltI/view?usp=sharing	58		
17	22/2/2022	Graphical Models - III (UGM)	https://drive.google.com/file/d/1WRIGsNYsaGBdNXtQMgyNgpd6-5F-LI2/view?usp=sharing	47	RN, DK + Ref	
			https://drive.google.com/file/d/1u5czXBLDNsWZetwNSE3Tbn-muiJt7RQ/view?usp=sharing	51		
18	24/2/2022	Graphical Models - IV (UGM)	https://drive.google.com/file/d/1YaRfeYuaeVAuaqBkXs7M7fPKzLsTFqIf/view?usp=sharing	54	RN, DK + Ref	(1) https://www.cise.ufl.edu/~anand/pdf/bookchap.pdf (2) https://engineering.purdue.edu/~bouman/publications/tutorials/mrf_tutorial/view.pdf
			https://drive.google.com/file/d/1_AWivR0ZOWyc-yONSKTs1c-V1IW0TWwB/view?usp=sharing	42		
19	28/2/2022	Hidden Markov Model - I	https://drive.google.com/file/d/1BNGrWjFWDWEUqe5wGUX_ng6WzwtBEdfJ/view?usp=sharing	55	RN, DK + Ref	
			https://drive.google.com/file/d/1giaHNUrI4Kny6uwPZhf6GM3Qy43bx20D/view?usp=sharing	40		
20	1/3/2022	Hidden Markov Model - II	https://drive.google.com/file/d/11b_pwHVuKQLMH_tYC0lxCv_zzqEeNC88/view?usp=sharing	45	RN, DK + Ref	(1) A Revealing Introduction to HMM, Mark Stamp (2018) (2) A Tutorial on HMM, Rabiner
			https://drive.google.com/file/d/1dvbEAY-tJVj9jlxHDsuLIQp-MMUP3bgR/view?usp=sharing	52		
21	3/3/2022	Hidden Markov Model - III (Forward Backward)	https://drive.google.com/file/d/1fgWESTKT2AwxgrjbxvoSQslVGHszrlfa/view?usp=sharing	47	RN, DK + Ref	
			https://drive.google.com/file/d/1As-AAaF5z9aL4HmzRM3_Jy8Jo8bVo7el/view?usp=sharing	38		
22	14/3/2022	Expectation Maximization	https://drive.google.com/file/d/1H6jxrp7Ps6cZ2soSbnMr_kRWc0XXlvI6/view?usp=sharing			
23	15/3/2022	Expectation Maximization	https://drive.google.com/file/d/164n-nb5Qc4K7d0QRcmOYw8LbA3fd9o_g/view?usp=sharing			
24	17/3/2022	HMM Learning - Baum Welch Algorithm	https://drive.google.com/file/d/1gvEBaVINQA7ICjP4kqaikT9x3H8w563/view?usp=sharing			
25		n-arm Bandit				
26		Markov Decision Process - I				
27		Markov Decision Process - II (Value Function)				
28		Markov Decision Process - III (Action Value Function)				
29		Reinforcement Learning Agent				
30		Reinforcement Learning Agent				
31		Game Theory - I				
32		Game Theory - II				
33		Game Theory - III				
34		Game Theory - IV				
35		Game Theory - V				