SRI VENKATESWARA COLLEGE OF ENGINEERING ALUMNI ASSOCIATION OF ELECTRONICS AND COMMUNICATION ENGINEERING

DATE : 17th October 2023

VENUE : Library Seminar Hall

Event Summary:

Mr. Rahil Jain's engaging presentation on **Reinforcement Learning** was a masterclass in understanding this intricate field, covering a range of topics and offering practical insights. He initiated the discussion by distinguishing between three core learning paradigms: **Supervised Learning, Unsupervised Learning,** and **Reinforcement Learning**. In Supervised Learning, he explained, models are trained on labeled datasets to make predictions, while Unsupervised Learning seeks patterns without the use of labeled outputs. However, the crux of his talk was Reinforcement Learning, in which agents learn to maximize rewards through their actions.

One of the key highlights of his presentation was the categorization of Reinforcement Learning into three fundamental components: "**Agent**," "**Action**," and "**Environment**". To make these elements more relatable, Mr. Jain cleverly drew parallels with everyday actions, allowing the audience to grasp the core principles of RL with ease. Furthermore, he explored the nuances of **Deterministic and Stochastic RL**. Deterministic RL, he emphasized, involves actions with **predictable outcomes**, whereas stochastic RL introduces **probabilistic elements**, adding an element of uncertainty to the decision making process.

Within this comprehensive overview, Mr. Jain also introduced the essential concepts of **State Value Function and Action Value Function**. The State Value Function estimates the expected cumulative reward starting from a specific state, offering a sense of a state's overall desirability. Meanwhile, the Action Value Function estimates the expected cumulative reward from a particular state when taking a specific action, aiding the agent in choosing the most rewarding path.

The talk then ventured into the heart of Reinforcement Learning, exploring the two main approaches: **model-based** reinforcement learning and **model-free** reinforcement learning. Model-based RL involves constructing a model of the environment to plan actions effectively, while model-free RL focuses on learning directly from interactions with the environment, without requiring a comprehensive model. Central to Reinforcement Learning is the Bellman Equation, which Mr. Jain highlighted. This equation plays a pivotal role in RL, representing the value of a state by considering the expected reward and the value of the subsequent state. Its application is critical in making informed decisions in an uncertain environment. Mr. Jain did not confine his talk to theoretical concepts alone. He provided real world insights by emphasizing applications of RL, including the control and optimization of **Autonomous helicopters**. This practical touch underscored the significance and vast potential of Reinforcement Learning in everyday life.

In a thoughtful addition to the presentation, Mr. Jain addressed the career aspirations of students who are navigating the complexities of college placements and higher studies. His guidance offered valuable perspectives on career paths and choices in the realm of technology and machine learning. Moreover, Mr. Jain shared intriguing glimpses into the projects he was currently involved in, shedding light on the real-world problems being tackled with RL techniques. These practical examples illustrated the versatility of Reinforcement Learning in solving complex challenges and driving technological innovation.

In conclusion, Mr. Rahil Jain's talk was a comprehensive exploration of Reinforcement Learning, its applications, and the challenges it presents. His guidance on career planning, alongside his project introductions, added a practical dimension to the event. The audience departed with a deeper understanding of the intricacies of RL and a heightened enthusiasm for the possibilities in the world of machine learning and artificial intelligence.

FACULTY CO-ORDINATORS

Dr D Menaka, ASP, ECE
Ms S Kalyani , AP, ECE

HOD,ECE

Dr.G.A.Sathishkumar

SRI VENKATESWARA COLLEGE OF ENGINEERING

FEEDBACK FROM THE SPEAKER - GUEST LECTURE

DEPARTMENT : ECE

Name of the Speaker	: Mr Rahil Jain
Designation	: Software Engineer
Institution/University/Organisation	: Temenos India Pvt Ltd
Mobile / E-mail	: 9940641886 / rahiljain1366@gmail.com
Title of the Lecture	: Deep Reinforcement Learning
Date	: 17/10/23
Time	: 10:30 to 12:05
Venue	:
Comments by the Speaker	: • Interactive session. • Hopefully they found a few new insights
Suggestions for improvement	:
Signature of the Speaker	: Rahil Jain

Signature of Coordinator

Signature of HOD

Guest Lecture on Deep Reinforcement Learning Techniques

Date and timing:15/10/2023 10.30 am-12 pm

Sl.No	ROLL NO	NAME	Signature
1	2127210701056	KAVIN AMUTHAN K	
2	2127210701057	KAVYA S K	
3	2127210701058	KEERTHIVAASAN A	
4	2127210701059	KIRAN SEKAR S	
5	2127210701060	KIRAN YADAV V	
6	2127210701061	KIRHUTHIKA P	
7	2127210701062	KOUSHIKA DEVI S	
8	2127210701063	LAKSHMI NARAYANAN K S	
9	2127210701064	LATHIKAA SHRI S	
10	2127210701065	LOGESHWAR A	
11	2127210701066	LOK RANJAN P	
12	2127210701067	MADHAV B	
13	2127210701068	MADHUVANTHI M K	
14	2127210701069	MAGDALENE ROY R	
15	2127210701070	MAGESH S	
16	2127210701071	MAHALAKSHMI P	
17	2127210701072	MAHISHA P	
18	2127210701073	MAHITH I K	
19	2127210701074	MANIKANDAN M	
20	2127210701075	MANIKANDAN R M	
21	2127210701077	MEENALOSHINI P	
22	2127210701078	MOHANALAKSHMI B	
23	2127210701079	MOHANRAJ R	
24	2127210701080	MONISH M	
25	2127210701081	MUKESH S	
26	2127210701082	NISHADHARSHINI N	
27	2127210701083	NITHISH KUMAR B	
28	2127210701084	NITHYASRI K S	
29	2127210701085	NIVETHA D R	
30	2127210701086	PARVESH R	
31	2127210701087	PRABHU DHARSHAN R	
32	2127210701088	PRAVEEN A S	

33	2127210701089	PRAVEEN KUMAR R	
34	2127210701090	PREETHI S	
35	2127210701091	PREMKUMAR K	
36	2127210701092	PRIYA DARSHINI V	
37	2127210701093	PRIYADHARSHINI S	
38	2127210701094	PRIYADHARSHINI S	
39	2127210701095	PRIYADHARSHNI B	
40	2127210701096	PRIYAVARSHINI N	
41	2127210701097	PUNITHA KUMAR K	
42	2127210701098	RAAJ KUMAR S	
43	2127210701099	RAHUL A	
44	2127210701100	RAHUL K	
45	2127210701101	RAJESHWARAN R	
46	2127210701102	RAM SOLAIAPPAN A	
47	2127210701103	RAM SURETH KUMAR S	
48	2127210701104	RAMYA A	
49	2127210701105	RISHI A	
50	2127210701106	ROBINKUMAR J	
51	2127210701107	ROHIT C	
52	2127210701108	SAAMBAVI PU	
53	2127210701109	RUDHRAKUMAR S	
54	2127210701306	KAVITHA S	
55	2127210701307	MADHAN D	
56	2127210701308	NANDHANAN R	
57	2127210701310	NELLAI NAYAGAM V	
58	2127210701501	MAHALAKSHMI M	