SL.NO	CONFERENCES	PAPER NAMES	ABSTRACT
1	ICLR (International Conference on Learning Representations)	Graph Convolutional Reinforcement Learning	In this paper, the researchers proposed graph convolutional reinforcement learning. In this model, the graph convolution adapts to the dynamics of the underlying graph of the multi-agent environment whereas the relation kernels capture the interplay between agents by their relation representations. In simple words, the multi-agent environment is modelled as a graph and the graph convolutional reinforcement learning, also called DGN is instantiated based on deep Q network and trained end-to-end. According to the researchers, unlike other parameter-sharing methods, graph convolution enhances the cooperation of agents by allowing the policy to be optimised by jointly considering agents in the receptive field and promoting mutual help.
2	ICLR (International Conference on Learning Representations)	Measuring the Reliability of Reinforcement Learning Algorithms	Lack of reliability is a well-known issue for reinforcement learning (RL) algorithms. In this paper, the researchers proposed a set of metrics that quantitatively measure different aspects of reliability. According to the researchers, the analysis distinguishes between several typical modes to evaluate RL performance, such as “evaluation during training” that is computed over the course of training vs “evaluation after learning”, which is evaluated on a fixed policy after it has been trained. These metrics are also designed to measure different aspects of reliability, e.g. reproducibility (variability across training runs and variability across rollouts of a fixed policy) or stability (variability within training runs).
3	ICLR (International Conference on Learning Representations)	Behaviour Suite for Reinforcement Learning	The researchers at DeepMind introduces the Behaviour Suite for Reinforcement Learning or bsuite for short. bsuite is a collection of carefully-designed experiments that investigate the core capabilities of reinforcement learning agents with two objectives. First, to collect clear, informative and scalable problems that capture key issues in the design of general and efficient learning algorithms. Second, to study agent behaviour through their performance on these shared benchmarks.
4	ICLR (International Conference on Learning Representations)	The Ingredients of Real World Robotic Reinforcement Learning	In this paper, the researcher at UC, Berkeley and team discussed the elements for a robotic learning system that can autonomously improve with the data that are collected in the real world. They proposed a particular instantiation of a system using dexterous manipulation and investigated several challenges that come up when learning without instrumentation. Furthermore, the researchers proposed simple and scalable solutions to these challenges, and then demonstrated the

			efficacy of the proposed system on a set of dexterous robotic manipulation tasks. They also provided an in-depth analysis of the challenges associated with this learning paradigm.
5	ICLR (International Conference on Learning Representations)	Network Randomisation: A Simple Technique for Generalisation in Deep Reinforcement Learning	Here, the researchers proposed a simple technique to improve a generalisation ability of deep RL agents by introducing a randomised (convolutional) neural network that randomly perturbs input observations. The technique enables trained agents to adapt to new domains by learning robust features invariant across varied and randomised environments.
6	COLT (Conference on Learning Theory)	Locally Private Hypothesis Selection	We initiate the study of hypothesis selection under local differential privacy. Given samples from an unknown probability distribution p and a set of k probability distributions Q, we aim to output, under the constraints of ε-local differential privacy, a distribution from Q whose total variation distance to p is comparable to the best such distribution. This is a generalization of the classic problem of k-wise simple hypothesis testing, which corresponds to when p∈Q, and we wish to identify p. Absent privacy constraints, this problem requires O(logk) samples from p, and it was recently shown that the same complexity is achievable under (central) differential privacy. However, the naive approach to this problem under local differential privacy would require O~(k2) samples. We first show that the constraint of local differential privacy incurs an exponential increase in cost: any algorithm for this problem requires at least Ω(k) samples. Second, for the special case of k-wise simple hypothesis testing, we provide a non-interactive algorithm which nearly matches this bound, requiring O~(k) samples. Finally, we provide sequentially interactive algorithms for the general case, requiring O~(k) samples and only O(loglogk) rounds of interactivity. Our algorithms are achieved through a reduction to maximum selection with adversarial comparators, a problem of independent interest for which we initiate study in the parallel setting. For this problem, we provide a family of algorithms for each number of allowed rounds of interaction t, as well as lower bounds showing that they are near-optimal for every t. Notably, our algorithms result in exponential improvements on the round complexity of previous methods.
7	Deep Learning Summit	The Ethical Implications of AI	As AI continues to progress and businesses across the globe benefit from its capabilities, it's important to ensure that the technology is being harnessed for good, to create a better, fairer society. AI systems are already superior to humans in certain tasks such as image recognition, data analysis and problem solving tasks. These advances present a wealth of ethical questions surrounding biases that could appear in the data, security issues, and potential consequences if systems are hacked or used irresponsibly. There are several 'guidelines' for ethical practices of AI such as the way data is handled and

			the processes developers should go through when creating a product, but there are still grey areas which are a cause for concern. Throughout this paper we explore the ethical implications of AI as well as looking at real world examples of how AI can be used for good. Expert opinions from academics, industry leaders, researchers, CEOs, founders and many more are included to comment on the ethical concerns and solutions across multiple industries including healthcare, finance, sustainability, research, transport and more.
8	AI Summit NSA	Achieving Password Less is Trickier Than You Think-12 Key Considerations	The ideal of achieving a true passwordless operating environment is a universally accepted one. The benefits to both a better user experience and to improved security are clear. It comes as no surprise then that passwordless is taking centre stage in industry discussions and with vendor product focus alike. However, the path to achieving complete password replacement is not trivial, and there’s no simple middle ground. It’s not possible to have a “mostly passwordless” outcome, to implement just a little bit here and a little bit there. True benefits are realised only when you’re all in, and passwords are eliminated in totality. This means that you need to be well equipped to tackle passwordless with both the right approach, the right tools, and well supported projects. To help you come to grips with all the aspects you need to consider, I outline 12 key factors that are critical to a successful passwordless implementation.