

## **Deep Reinforcement Learning: sometimes it works, more often it doesn't !**

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“AlphaGO”, the software that defeated a great Korean master at the game of Go in March 2016, is just the tip of a field of *artificial intelligence* (AI) called “Deep Reinforcement Learning”. This theme is on the rise and is stirring up all kinds of fantasies. In this presentation, we will analyse the underlying principles of this discipline (Markov Decision Processes, Regression by Artificial Neural Networks) to better understand its possibilities, and above all, its limitations. And we will also see that we are desperately lacking theoretical tools to understand why algorithms sometimes produce prodigious results and why, in the same situation, the results can be catastrophic.