Keynote Speaker

Deep Reinforcement Learning: A Promised Way to AI

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Abstract

Artificial Intelligence (AI) is moving towards a new era in recent years. A game software AlphaGo defeated the European champion of professional Go player in October 2015, and the world champion players in March 2016, May 2017. There are more and more auto-driving vehicles presently, auto-driving bus will be adopted during 2020 Tokyo Olympics and Paralympics. It is widely known that this AI boom is sparked by deep learning, which is a new kind of machine learning method using artificial neural networks (ANNs). However, “deep” only indicates the number of layers of ANNs is more than three, and “learning” which means to modify the synaptic connections between neurons of ANNs usually utilizes the conventional supervised learning methods. On the other hand, reinforcement learning, a kind of goal-directed learning method with trial and error algorithm, may be more suitable to realize AI. In this talk, kinds of deep reinforcement learning (DRL) which are state-of-the-art frameworks with deep architectures and RL are reviewed at first, then a time series forecasting model with DRL is introduced in detail.