

# Bandit (for) games

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In this talk, I will explain how state-of-the-art stochastic bandit algorithms for different objectives –namely best arm identification and regret minimization– can be useful in more complex game-like situations. I will first discuss the use of bandit methods for Monte-Carlo Tree Search and their applications to planning in games. I will present a new way to use best arm identification tools for this purpose, with provable sample complexity guarantees. Then, I will discuss a recent work on multi-player bandits, in which several players (e.g. radio devices) are competing for the same set of arms (e.g. radio channels). I will introduce an algorithm that combines kl-UCB with a new orthogonalization mechanism to avoid collisions between players, and present some regret guarantees.