



Séminaire conjoint du CIRRELT avec la SCRO CIRRELT Joint Seminar with CORS

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STOCHASTIC OPTIMIZATION AT AIRBUS: RECENT ADVANCE ON CONTINUOUS BANDITS ALGORITHMS AND PERSPECTIVES ON FLIGHT PLANNING

Abstract: In this presentation, we will shortly present some of the theoretical research work that has been performed recently about continuous Lipschitz Bandits algorithms. In the framework of a recent PhD thesis about stochastic black box optimization, we have been investigating the theoretical performance as measured by the bandit community of a famous optimization algorithm proposed by Piyavskii in 1972. It was already well known by the optimization community that this algorithm numerically outperforms most comparable algorithms. Nevertheless clear statements about its theoretical convergence property were still missing, especially in dimension higher than one. We have shown that this algorithm exhibits state of the art global convergence property and that it can be extended to a stochastic context and still hold state of the art convergence rates.

Following this technical introduction we will provide some high-level insight about Airbus' interest in investigating such algorithms. We will especially focus on the flight planning problem. Among the numerous stochastic optimization problems that Airbus is facing, the flight planning problem in stochastic environment is most probably one of the most challenging ones. In this second part we will thus present a simple formulation of this problem that suits the previously introduced framework. Then we will open a discussion about other possible approaches we would like to investigate.

VENDREDI / FRIDAY

22 septembre 2017 /
September 22nd, 2017
10h30

Salle / Room 5441
Pavillon André-Aisenstadt
Université de Montréal

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