

Colloque du
Département d'informatique et de recherche opérationnelle

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**Predicting Linguistic Structures
Accurately and Efficiently**

Résumé :

Many classic problems in natural language processing can be cast as building mapping from a complex input (e.g., a sequence of words) to a complex output (e.g., a syntax tree or semantic graph). This task is challenging both because language is ambiguous (learning difficulties) and represented with discrete combinatorial structures (computational difficulties). Often these are at odds: the features you want to add to decrease learning difficulties cause nontrivial additional structure yielding worse computational difficulties.

I will begin by discussing algorithms that side-step the issue of combinatorial blowup and aim to predict an output structure directly. I will then present approaches that explicitly learn to trade-off accuracy and efficiency, applied to a variety of linguistic phenomena. Moreover, I will show that in some cases, we can actually obtain a model that is faster and more accurate by exploiting smarter learning algorithms.

This is joint work with Jason Eisner, John Langford, Jiarong Jiang, He He, Adam Teichert and Tim Vieira.



Le jeudi 21 novembre 2013, 15h30, pavillon André-Aisenstadt, salle 3195
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