LMF Days: PhD short presentation

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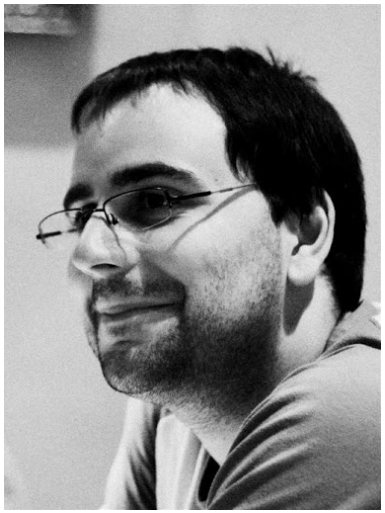
Practical point of view

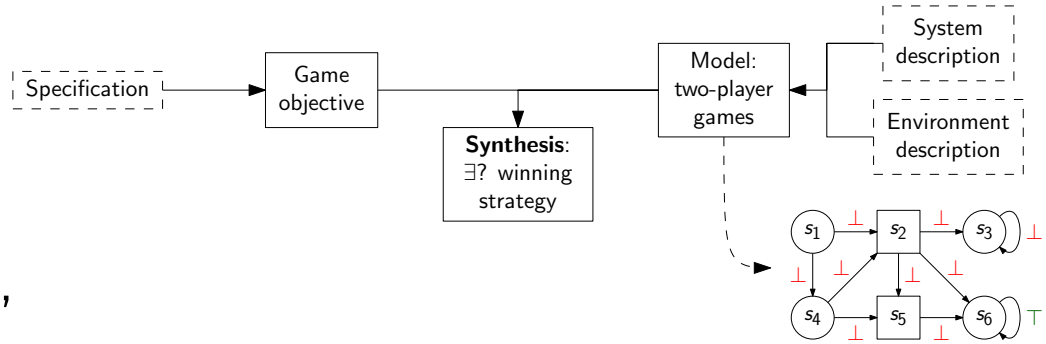
- Four-year-long PhD, started in October 2019.
- Co-supervised by...



Mickael Randour,
Université de Mons,
Belgium

Patricia Bouyer-Decitre,
LMF,
France

Thesis topic



- Verification and synthesis:
  - **game**-theoretic approach,
  - **multi-objective** reasoning,
  - attempt to bring a **unified** view.

- Results on *strategy complexity*:[1]
  When are simple controllers sufficient to play optimally?

  $\rightsquigarrow$ *Gist of the main result: given an objective, if using memory $\mathcal{M}$ (a finite automaton) is sufficient to play optimally in **one-player** games, then it is also sufficient in **two-player** zero-sum games.*

- Currently working on strategy complexity in **stochastic** games.

[1] Bouyer, Le Roux, Oualhadj, Randour, Vandenhove, "Games Where You Can Play Optimally with Arena-Independent Finite Memory", CONCUR'20

Thanks!