

Expressiveness of Temporal Logics

Conclusions

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August 4, 2006

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Summary of the course

Three levels for measuring expressiveness:

- **distinguishing power:**
 - very coarse measure: $\mathcal{L}(\mathbf{X})$ and LTL+Past have the same distinguishing power;
 - proofs generally easy.
- **expressive power:**
 - finer relation;
 - proofs generally hard:
 - ad hoc techniques: families of models;
 - via other formalisms: first-order logic, automata theory, ...

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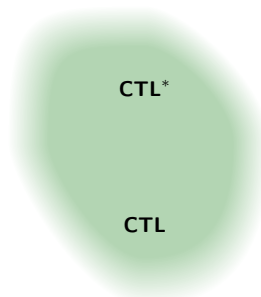
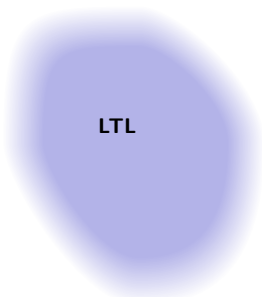
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 - ad hoc techniques: families of models;
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- **succinctness:**
 - very precise measure;
 - proofs generally very involved:
 - through automata theory,
 - Ehrenfeucht-Fraïssé games, ...

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Summary of the course

Linear time

Branching time

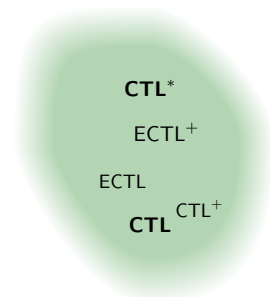
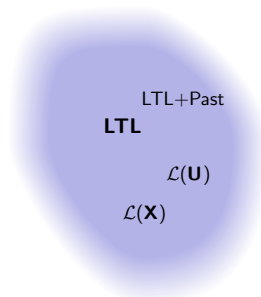


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Summary of the course

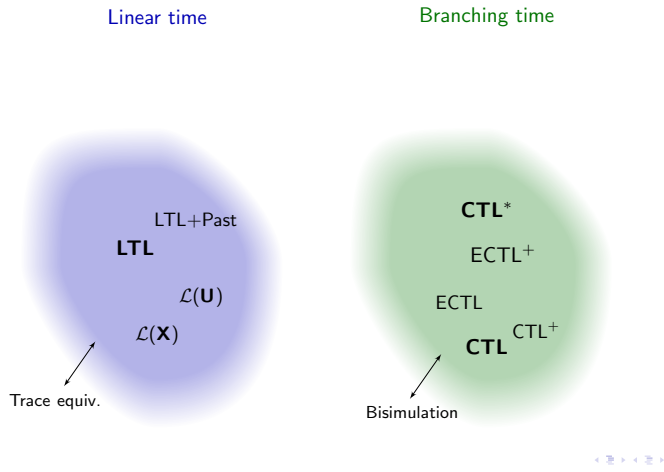
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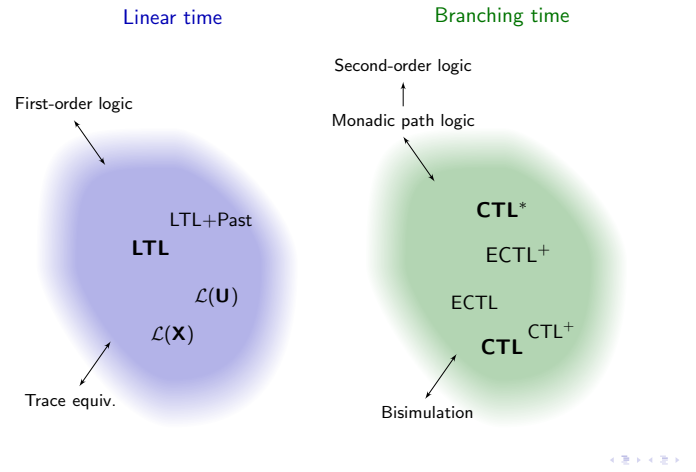


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