HATS Project
Model Mining at KTH
2010-05-12 Amsterdam Meeting

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Background in Learning

- Context: learning automata from dynamic behavioral information (runs)

- Complete learning: well known in literature e.g. Angluin ID, L* , …

- Incremental learning: less well known
  - IID algorithm (Parekh et al.)
  - RPNI2 (Dupont)

Summary of Activities (1)

- Correctness and Performance of IID learning algorithm (MS and KM)
    - Correct bugs
    - New proof of correctness
    - Implementation
    - Analysis of complexity
    - Suitable for finite data types (bit slicing)

Summary of Activities (2)

- CGE (congruence generator extension) algorithm (KM and NF)
  - New algorithm
  - Proof of Correctness
  - Implementation
  - Query efficient
  - Suitable for abstract data types (HATS)

Future Work

- IID algorithm seems adequate for finite data types

- CGE algorithm extends to infinite data types

- What kinds of infinite state system can be learnt?
  - under/over approximation

- Applications to test case generation (learning-based testing HATS)

Learning-based testing