
CIS Research Seminar
Thursday, September 14
3 PM
Levine 307

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Title:
Modeling and Querying Linear Hierarchical Data

Abstract:

Finite automata over words are employed routinely for modeling and processing linear data.

In this talk, we will explain how our efforts to add context-free specifications to software model checking led us to the model of nested words as a representation of data with both a linear ordering and a hierarchically nested matching of items. Such dual structure occurs in diverse corners of computer science ranging from executions of structured programs where there is a natural well-nested matching of entries to and exits from functions and procedures, to XML documents with the well-nested structure given by start-tags matched with end-tags. Finite-state acceptors for nested words define the class of regular languages of nested words that has all the appealing theoretical properties that the class of classical regular word languages enjoys. We will review the emerging theory of nested words and its potential applications. We will also discuss the benefits of modeling linear hierarchical data as nested words instead of trees.

Research seminar web page: www.cis.upenn.edu/grad/rsch-sem06.shtml
