History Independence as an Algorithmic Tool

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Abstract

In this talk, I'll argue that history independence – a widely-studied privacy property in the data-structures literature – is actually a powerful algorithmic tool, not just for privacy, but for building faster and better data structures. Along the way, I'll discuss a recent sequence of results on the list-labeling problem, where history independence played a pivotal role in overturning a 30-year-old conjecture.

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