The Tree Model for Hashing: Lower and Upper Bounds

Joseph Gil
Friedhelm Meyer auf Der Heide
Avi Wigderson

Abstract
We define a new simple and general model for hashing. The basic model, together with several variants capture many natural (sequential and parallel) hashing algorithms and represent common hashing practice. Our main results exhibit tight tradeoffs between hash table size and the number of applications of a hash function on a single key.