

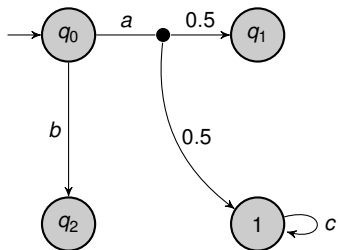
An anytime algorithm for reachability in uncountable MDPs

Kush Grover

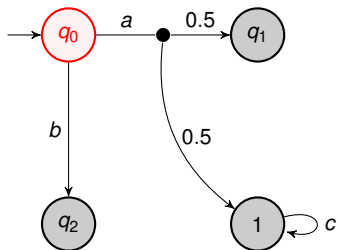
Technical University of Munich

Joint work with **J. Křetínský**, **T. Meggendorfer** and **M. Weininger**

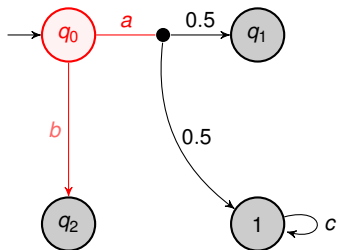
MDPs



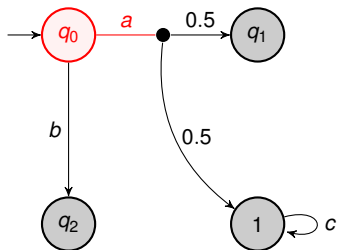
MDPs



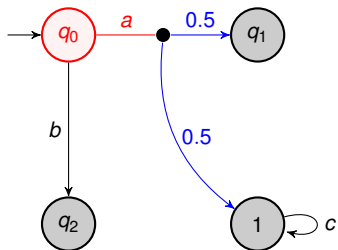
MDPs



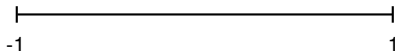
MDPs



MDPs



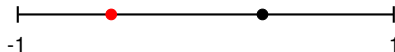
Uncountable MDPs



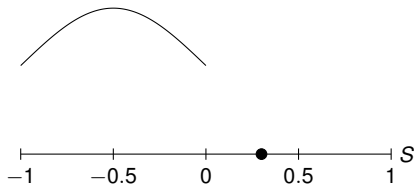
Uncountable MDPs



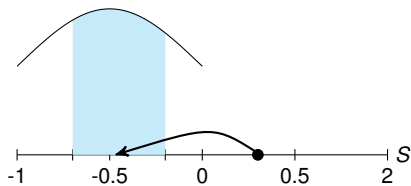
Uncountable MDPs



Uncountable MDPs



Uncountable MDPs



Reachability in Uncountable MDPs



Reachability in Uncountable MDPs



Computing the exact value is **not possible**.

Reachability in Uncountable MDPs



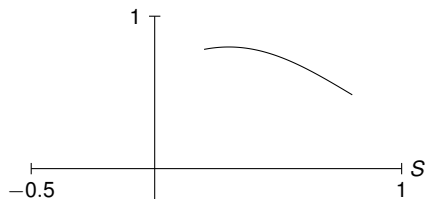
Approximate the value with bounds on the error.

Reachability in Uncountable MDPs

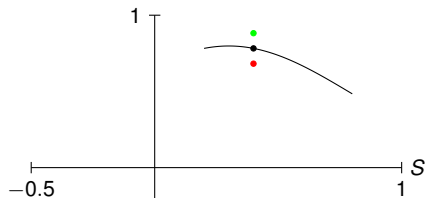


Anytime algorithm.

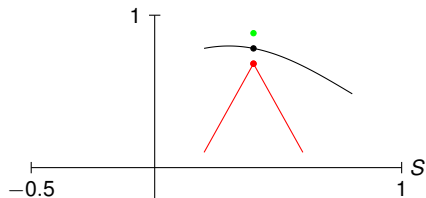
Lipschitz Continuity



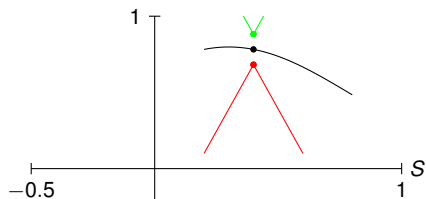
Lipschitz Continuity



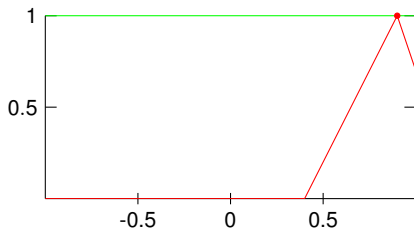
Lipschitz Continuity



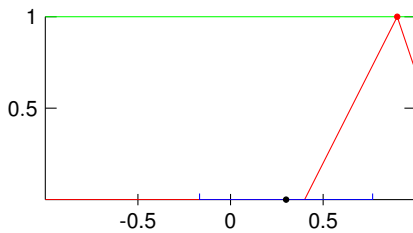
Lipschitz Continuity



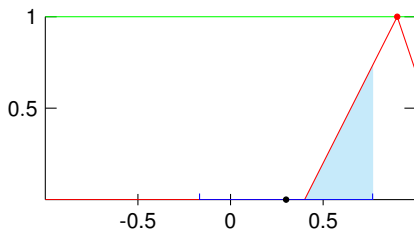
Algorithm



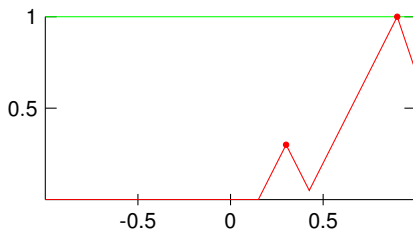
Algorithm



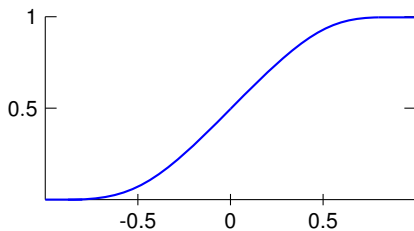
Algorithm



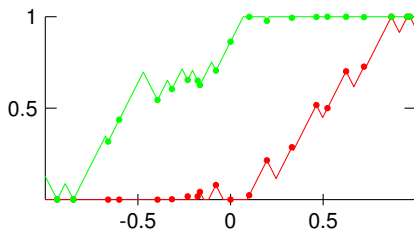
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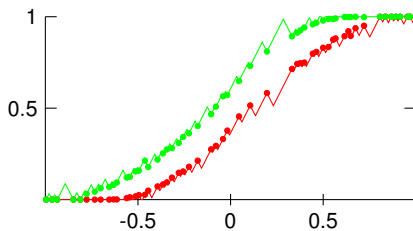
Algorithm



Algorithm



Algorithm



Thank You!

