

A drainage network with multi-dimensional amnesic elephant walkers

Kumarjit Saha (Ashoka University, Haryana, India)

Abstract In this talk we will describe a directed random forest obtained from the movement of multi-dimensional interacting amnesic elephant walkers. At each location, due to amnesia, the elephant walker at that location can remember only a random number of steps taken by other elephants in the recent past leading into that location. We show that if the tail of the memory random variable decays sufficiently fast, then the macroscopic structure of the network behaves robustly with respect to the memory parameter. For the resultant network, we observe a tree-forest dichotomy type of behaviour depending on dimensions.

This is a joint work with Kartick Adhikari and Shambu Nath Maurya.