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Managing Massive Multiplayer Online Games

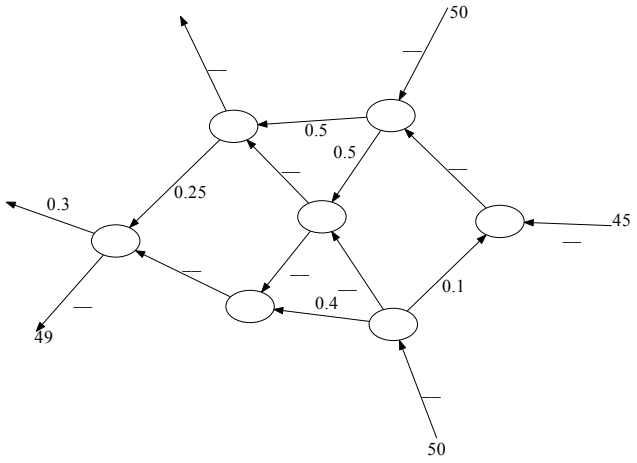
SoSe 2018

Exercise Sheet 10: Temporal and Spatial Behavior

Discussion: July 20th, 2018

Exercise 10-1 *Homogenous Poisson Models* **(Homework)**

The following extract of a road network is given:

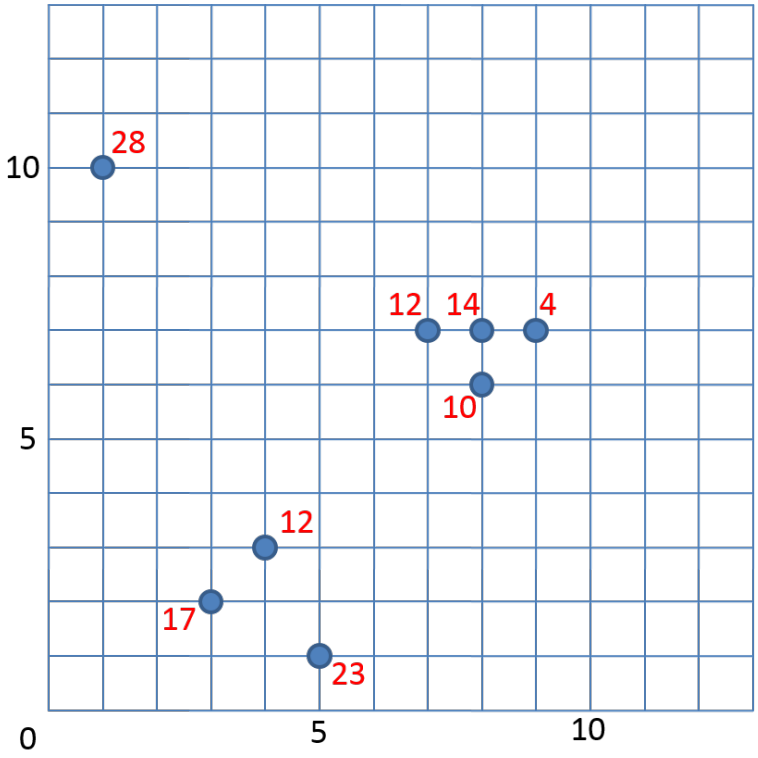


Labels of entering edges indicate the number of characters entering the represented area. Labels of the other edges indicate the probability that a character decides upon the corresponding way. Assume that the motion inside the road network follows a homogenous poisson process.

Calculate the missing probabilities and for every edge the expected number of characters who are located at every time on the way represented by the edge.

Exercise 10-2 *Spatial Outlier Detection* **(Homework)**

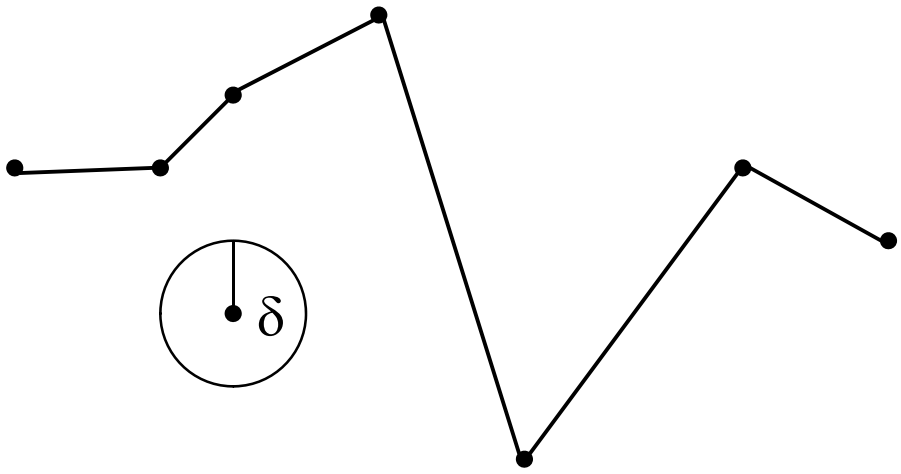
In the following relevant spatial positions (e.g. starting positions in an FPS or frequent camp positions in an MMORPG) are given. For every position a score is given additionally which depicts semantic information about the quality of the position (e.g. the average number of frags in an FPS or the average count of EP/coins per hour in an MMORPG).



Find the three strongest outliers in this dataset applying the Point Outlier Detection Algorithm with $k = 2$. Use the absolute score difference as weighting function.

Exercise 10-3 *Compression of trajectories* **(Homework)**

Approximate the following trajectories with the Douglas Peucker Algorithm



(i)

(ii)