

# Navigation in Maps : Remembering Strategies Across Episodes

Dipendra Kumar Misra  
Department of Computer Science  
IIT Kanpur

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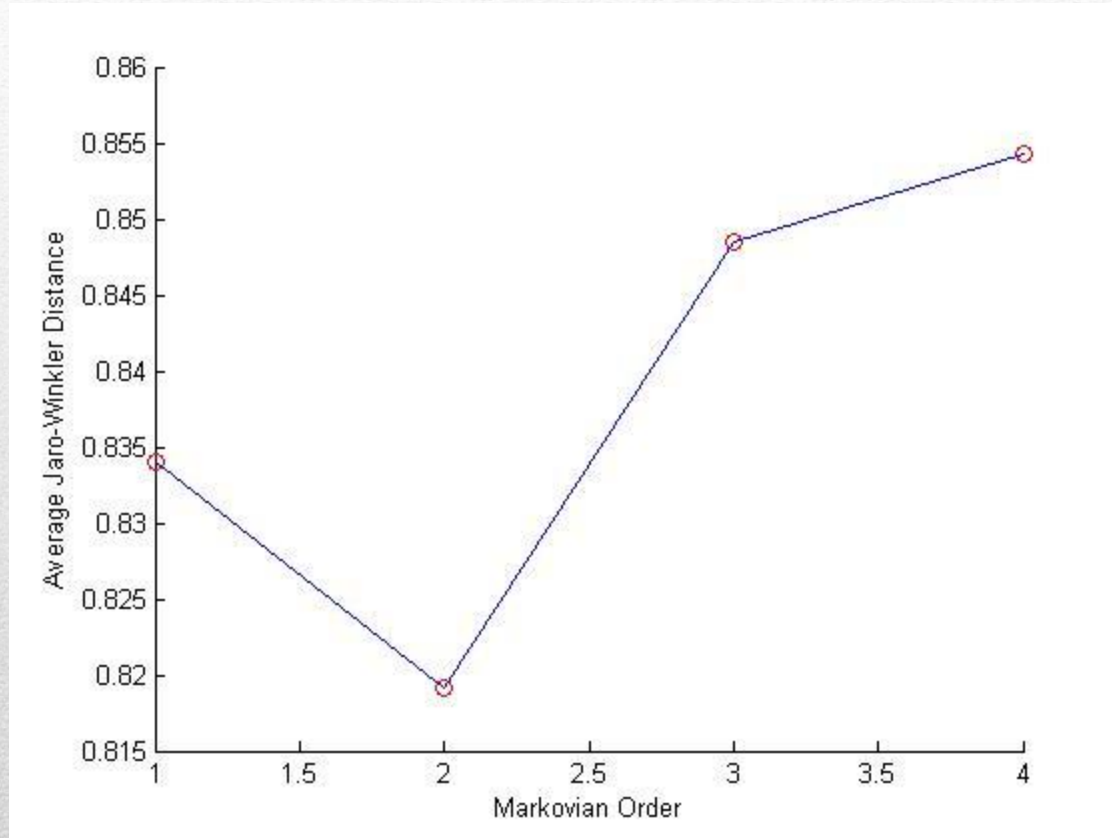
## Results

Order of Markovian	Average Jaro-Wrinkler Score
0	0.834
1	0.8192
2	0.8485
3	0.85425

Little increase from 2 to 3 may be because of overfitting

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# Results





# Main Result

No significant evidence for remembering strategies across episodes was found.

Possible Reason :

- Limitation of working memory
  - Singular preference of a single strategy in all episodes defeats the purpose
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## **Heuristics**

- Coarse-To-Grain Strategy
- Clustering Method

## **Feature**

- F1 = Average Distance travelled in each episode
  - F2 = Number of regions covered in one episode
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## Methodology

- Ask 5 IITK fourth year to be subject
- Asked them to remember the name of 20 landmarks and repeat it 5 times
- Built ordered tree for each of the candidate using Hirtle Algorithm
- After 5 days ask them to response to 5 task
- Then heuristic method was applied which uses ordered tree to find some response for the task
- The distance of this response from Ground truth is computed using Jaro-Winkler distance

$$d_j = \begin{cases} 0 & \text{if } m = 0 \\ \frac{1}{3} \left( \frac{m}{|s_1|} + \frac{m}{|s_2|} + \frac{m-t}{m} \right) & \text{otherwise} \end{cases}$$



## Methodology Contd..

- Compute cost =  $F1 * a + F2 * b + bias0 * c + bias1 * d + \dots$
  - Go with minimum cost heuristic
  - Compute Jaro-Winkler distance
  - Use hill climbing to find optimal parameters
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# Sample Task

## Task 2

You have to do the following task. Do not bother in details like you have to jog in the evening etc. All you should care is that you have to visit that place. For example if a task requires receiving a person then it does not mean you have to carry him and so you do it at the end. You can ignore most of the details.

Starting Position : MT

1. Receive your brother from Kendriya Vidyalaya
  2. Buy pair of soap from ShopC
  3. Go to Tennis Court for playing tennis
  4. Run a program in Computer Center
  5. Attend a Seminar in Auditorium
  6. Attend a class in Western Lab
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