Performance analysis of k-nearest neighbor algorithms

Heli Alpeshkumar Patel
School of Computer Science
Carleton University
Ottawa, Canada K1S 5B6
helialpeshkumarpatel@cmail.carleton.ca

November 26, 2022

1 Introduction

- Introducing the data growth.
- About core technique in Data mining- Classification.
- Most popular classification method is KNN.

2 K-Nearest neighbor

- KNN Algorithm.
- Euclidean Distance.
- Things about KNN.

3 The requirement for parallelism

- Limitations of Serialized KNN.
- Need of Parallel Processing.

4 Parallel KNN

- Brief on Parallel KNN.

5 Experiment

- A discussion of the performance analysis scenarios I considered.

6 Data

- Dataset utilized for performance analysis.
- Train and Test data.

7 Evaluation

- Brief on evaluation metrics.

8 Results

- Experiment 1 result: Serialized vs Parallel KNN.
- Experiment 2 result: Serialized vs Parallel KNN.
- Performance analysis.

9 Conclusion

- Future work.
- Conclusion.

10 Discussion Questions

- Discussion Questions.
- Suggestions.

11 References