

作業一：



閱讀／統整相關文獻

(2011/4/13上課時進行簡報)



注意：

- 若未被老師指定，僅需準備後述 (1) 的作業即可



(1) 閱讀文獻並寫成自己的話

1. 找3~5篇主題相近的論文
 - 從KDD / CIKM兩個國際會議的近年 (2008~) 論文集中搜尋或瀏覽
2. 快速閱讀論文的基礎部分
 - 摘要 (Abstract) 及緒論 (Introduction)
3. 歸納並選定一個關鍵詞
4. 由各論文中挑出與此關鍵詞相關的一些句子
5. 以自己的話重組並改寫為 (英文) 80~120字之段落

註：步驟1~3可能會反覆發生



舉例：

- 關鍵詞：“sensor”

- 3~5篇論文：

- [1] B. Chen, W. Liang, R. Zhou, and J. X. Yu, “Energy-efficient Top-k Query Processing in Wireless Sensor Networks,” Proceedings of the 19th ACM Conference on Information and Knowledge Management, pages 329-338, October 2010.
- [2] “A Method for Discovering Components of Human Rituals from Streams of Sensor Data”
- [3] “An Efficient Data-centric Storage Scheme Considering Storage and Query Hot-spots in Sensor Networks”



舉例 (續) :

Energy-Efficient Top- k Query Processing in Wireless Sensor Networks

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ABSTRACT

Technological advances have enabled the deployment of large-scale sensor networks for environmental monitoring and surveillance purposes. The large volume of data generated by sensors needs to be processed to respond to the users queries. However, efficient processing of queries in sensor networks poses great challenges due to the unique characteristics imposed on sensor networks including slow processing capability, limited storage, and energy-limited batteries, etc. Among various queries, top- k query is one of the fundamental operators in many applications of wireless sensor networks for phenomenon monitoring. In this paper we focus on evaluating top- k queries in an energy-efficient manner such that the network lifetime is maximized. To achieve that, we devise a scalable, filter-based localized evaluation algorithm for top- k query evaluation, which is able to filter out as

1. INTRODUCTION

Technological advances in recent years have enabled the deployment of large-scale sensor networks consisting of hundreds or thousands of inexpensive sensors in an ad-hoc fashion. Such networks now are used for a variety of environmental monitoring and surveillance purposes including measurements of meteorological data (e.g. temperature, pressure, humidity), noise levels, chemicals, etc [5, 22]. During this course, a large volume of sensing data generated by sensors is needed to be processed within the network to respond to queries from users. The wireless sensor network is thus treated as a virtual database by the database community [2]. Top- k query is a fundamental operation to search for the most important objects according to object ranking obtained by various ranking techniques. Efficient processing of top- k query is crucial in many applications [7]. Unlike



舉例（續）：

- Sensor networks may contain up to thousands of sensor nodes. The major applications include environmental monitoring and surveillance [2] in either home, office or open spaces. Various types of measurement data can be collected in a sensor network, such as temperature, pressure, humidity, and noise levels. Therefore a sensor network can be considered as a virtual database [1] containing a large volume of data. Then, corresponding technical challenges including efficient query processing [3] and pattern discovery are generally addressed.



(2) 寫作時常見之錯誤與問題

- 低階錯誤：
 - 一句話中沒有主詞 / 受詞
 - 一句話中有多個動詞或沒有動詞
 - 濫用代名詞 (it)
- 高階問題：
 - 寫出的句子過長 ⇒ 拆成兩句話
 - 無生命的主詞活了起來?!
 - This technique has two advantages. (?)
 - There are two advantages of using this technique.
 - 重點隱藏在句末 ⇒ 把重點 (名詞) 提前，並改用被動式