

# User Guide of T-Drive Data

Version 1.0

Updated on August 16, 2011

## 1 Data Description

This dataset contains the GPS trajectories of 10,357 taxis during the period of Feb. 2 to Feb. 8, 2008 within Beijing. The total number of points in this dataset is about 15 million and the total distance of the trajectories reaches to 9 million kilometers. Fig. 1 plots the distribution of time interval and distance interval between two consecutive points. The average sampling interval is about 177 seconds with a distance of about 623 meters. Each file of this dataset, which is named by the taxi ID, contains the trajectories of one taxi. Fig. 2 visualizes the density distribution of the GPS points in this dataset.

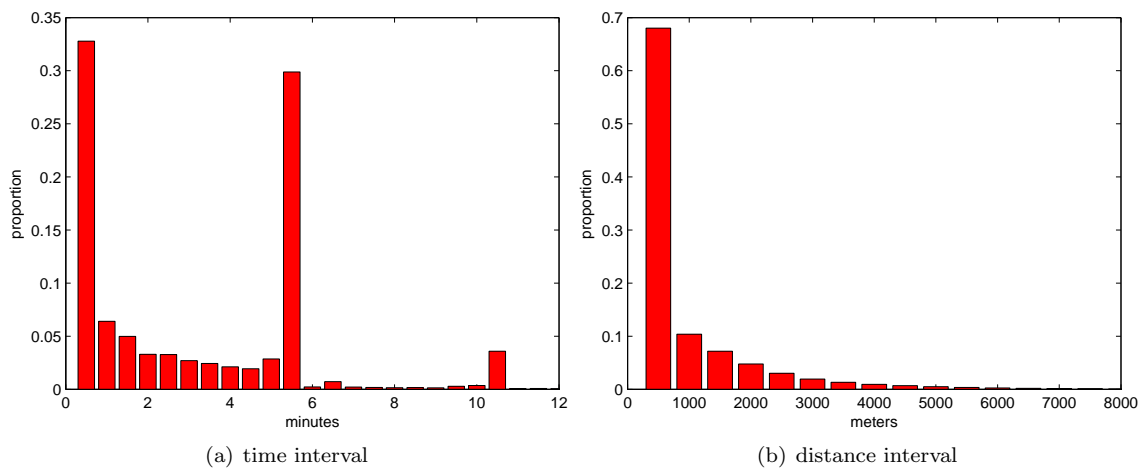
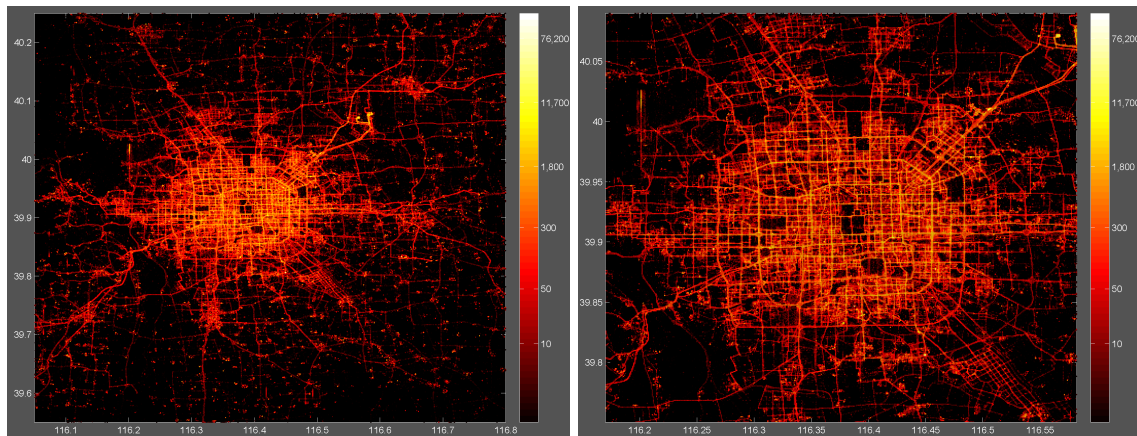


Figure 1: Histograms of time interval and distance between two consecutive points



(a) Data overview in Beijing

(b) Within the 5th Ring Road of Beijing

Figure 2: Distribution of GPS points, where the color indicates the density of the points

## 2 Data Format

Here is a piece of sample in a file:

```
1,2008-02-02 15:36:08,116.51172,39.92123
1,2008-02-02 15:46:08,116.51135,39.93883
1,2008-02-02 15:46:08,116.51135,39.93883
1,2008-02-02 15:56:08,116.51627,39.91034
1,2008-02-02 16:06:08,116.47186,39.91248
1,2008-02-02 16:16:08,116.47217,39.92498
1,2008-02-02 16:26:08,116.47179,39.90718
1,2008-02-02 16:36:08,116.45617,39.90531
1,2008-02-02 17:00:24,116.47191,39.90577
1,2008-02-02 17:10:24,116.50661,39.9145
1,2008-02-02 20:30:34,116.49625,39.9146
```

Each line of a file has the following fields, separated by comma:

taxi id, date time, longitude, latitude

## 3 Contact

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## 4 Paper Citation

Please cite the following papers when using the dataset:

- [1] Jing Yuan, Yu Zheng, Xing Xie, and Guangzhong Sun. Driving with knowledge from the physical world. In *The 17th ACM SIGKDD international conference on Knowledge Discovery and Data mining*, KDD '11, New York, NY, USA, 2011. ACM.
- [2] Jing Yuan, Yu Zheng, Chengyang Zhang, Wenlei Xie, Xing Xie, Guangzhong Sun, and Yan Huang. T-drive: driving directions based on taxi trajectories. In *Proceedings of the 18th SIGSPATIAL International Conference on Advances in Geographic Information Systems*, GIS '10, pages 99–108, New York, NY, USA, 2010. ACM.

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