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Inferring weekly primary activity patterns using public transport smart card data and a household travel survey

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- With public transport smart cards, massive spatio-temporal data have been recorded in many cities.
- This work presents a method to identify temporal weekly patterns of primary activities performed by public transport users in Singapore.
- According to the start time and duration of an activity, activities are classified in HOME, WORK/STUDY or OTHER.
- DBSCAN clustering algorithm was applied to recognize the most common primary activity patterns of public transport users in Singapore.

Weekly pattern recognition

- DBSCAN clustering:
  - Workers’ clusters:
  - Students’ clusters:

Temporal weekly patterns of primary activities performed by frequent public transport users in Singapore were recognized using Smart Card Data from public transport transactions.
- DBSCAN was successfully employed to recognize weekly patterns of workers and students.
- Results show that 5-weekday workers are the most representative group.
- The largest individual cluster represents frequent PT users working every weekday except Friday.
- Largest student clusters represent studying more than 8 hours during the 5 weekdays.