

# HOW CAN WE FIND INFORMATION OF HUMAN INTERACTIONS THAT ARE NOT AVAILABLE ON SOCIAL NETWORK?

GROUP 11

XUE JIAHUI, REN SHUAI, WAN SHIXIAN,  
WADASKAR RADHIKA, ZHU WEIXI, HE ZHIZHEN

# BACKGROUND AND PROBLEM

## ● Importance

Provide us more methods to know people's lifestyle

Identify the reliability of online social network

## ● Reason for unsolved

It is hard to collect and combine data

We cannot use the online social network data, only use the physical data

## ● Solution

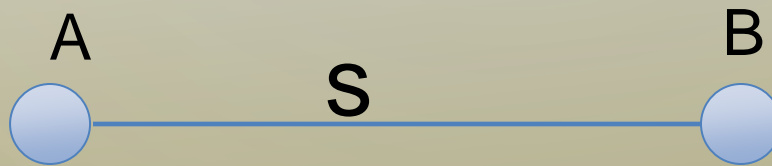
Collect data from physical way instead of social media, build a network based on real-world information

# OUR IDEA

Define human interaction by

1. Frequency
2. Location information
3. Similar behaviors (eg: browser record, physical movements: borrowing, watching movies)
4. Duration

Compare these info and make a conclusion



$S = \{(\text{location}, \text{behaviors}, \text{duration})\}$

# METHODOLOGY

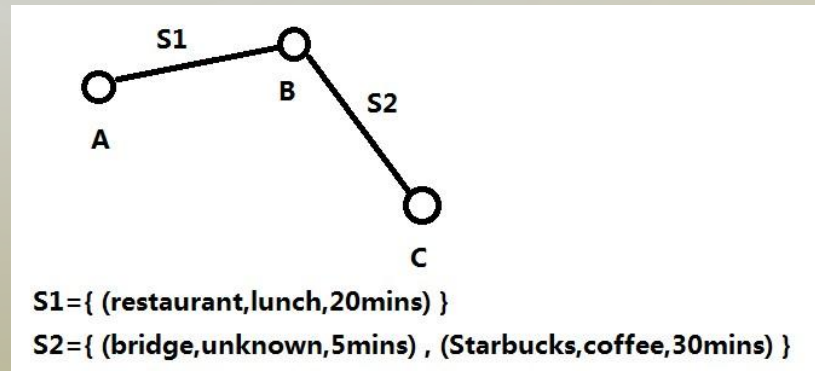
$$edge(u, v) \begin{cases} \frac{\sum_{i=1}^F D \cdot L \cdot A}{F} & F > 0 \\ \infty & F = 0 \end{cases}$$

D: Duration ( $u, v, i$ )

L: Location( $u, v, i$ )

A: Action( $u, v, i$ )

F: Frequency( $u, v$ )





# OUR EXPECTED RESULT

- Identify one person's action and status
- Determine two individuals' relationship by interactions
- Low value of function means close relationship

# Q & A





# REFERENCES

- [1] John Scott, “Social Network Analysis, A handbook,” SAGE Publication, 1991.
- [2] Stanley Wasserman, Katherine Faust, “Social network analysis: methods and applications, Cambridge university press, 1994.