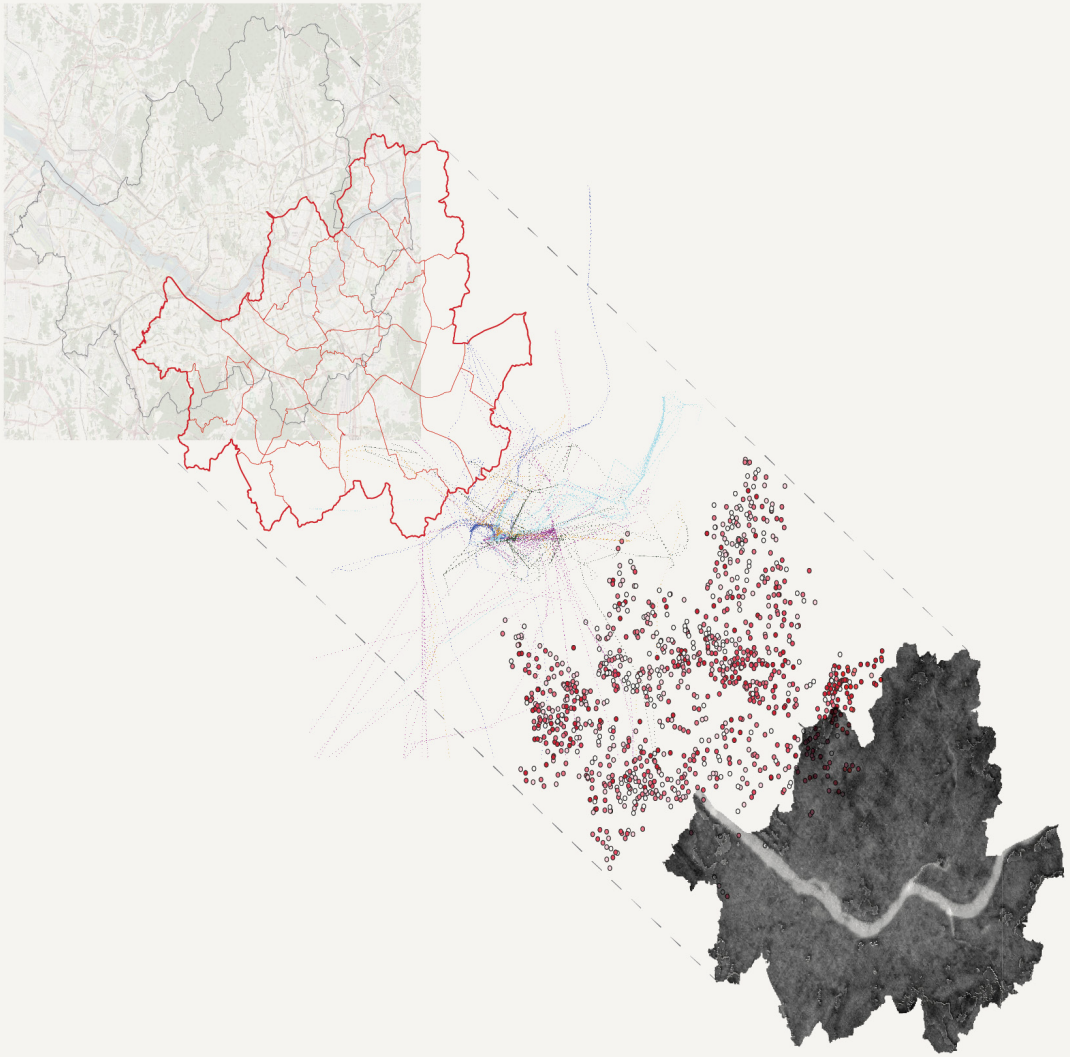
MSC THESIS:

The Impact of Urban Climate on Personal Mobility Choices

A case study in Seoul, South Korea

Michele Giampaolo | November 25, 2024

Project’s background



22 Participants
- hourly *position*
- hourly *thermal preference*

6 Week period

1096 Local weather stations

+ additional datasets

Main Goals

Patterns in **position data**

with Graph Neural Networks (**GNNs**)

01

Relation between **movement patterns** and **climate**

02

Comparison of **movement patterns** and traditional **comfort models** in assessing **personal thermal preferences**

03

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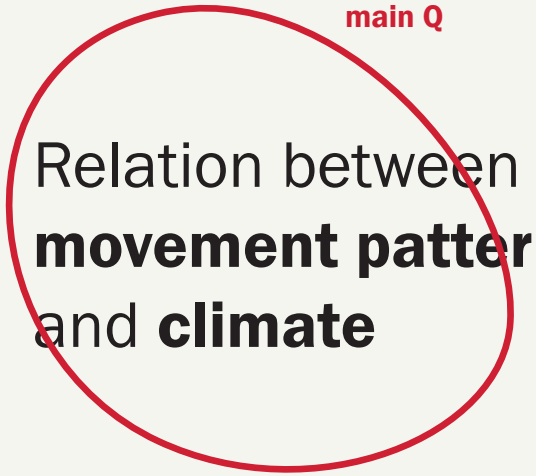

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01 02 03

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with Graph
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(**GNNs**)

secondary Q

main Q

Relation between
movement patterns
and **climate**

secondary Q

Comparison of
movement patterns
and traditional
comfort models
in assessing
personal thermal preferences

01 02 03

(current) Research Questions

MAIN

How do **urban climate factors** impact **mobility choices** in the urban landscape of Seoul?

SECONDARY

To what extent can **GNNs** automatically detect mobility patterns?

How is mobility defined using **GNNs**?

How do **thermal preferences** differ from **expected comfort levels**?

Are mobility patterns more indicating than comfort models in **assessing thermal preference**?

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Thank you!