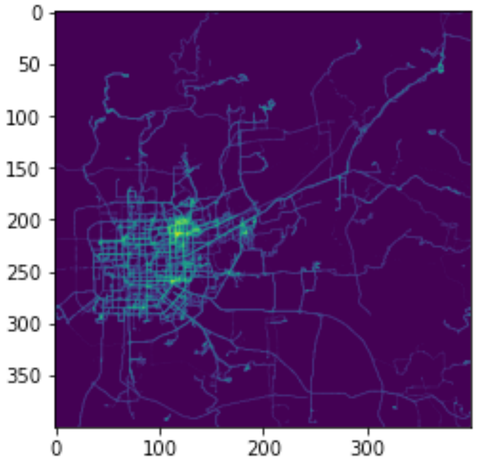
Input Data Construction & PreExperiments

Progress Report

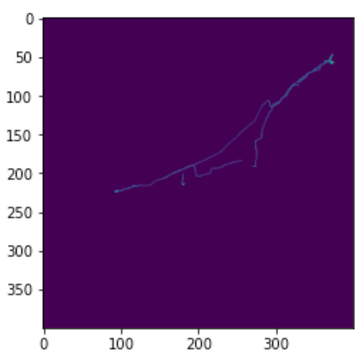
Yu MO, 2022/07/25

Input Data Constructions

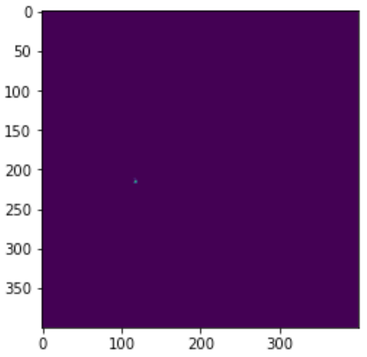
main idea



Entire Dataset



Long



Short

OSM/POI-based trajectory map

Basic idea

- *Image-based* Trajectory representation
  - Grid-map Trajectory image (Figs on left)
  - POI-map Trajectory image (2-channels)
  - POI-time map Trajectory image (3-channels)
  - OSM Trajectory image

Input Data Constructions

Encounter problems

- Variant Resolution Problem
  - Multi-resolution images sequences
- Spatiotemporal information extraction problem
- Augmentation Problem
  - **How to do augmentation? How to verify the effectiveness of augmentation?**

Input Data Constructions

Pre-experiments

- Models: SimCLR & BarlowTwins
- Kernel model: one-layer LSTM & ResNet16
- Dataset: GeoLife (around 8k/4k after processing)

Results Table

Model	Original Input	Image
RF(100%)	71.3%	––
SimCLR(20%)	65.6%	58.4%
BarlowTwins(20%)	––	57.9%