Route1

Route2

Route3

Route4

A 60-minute video

60 minutes

① Selection of 1200 frames

Use Python to select a single frame in portable network graphics (PNG) format every three seconds

② Semantic segmentation by deep learning

vertical plants
sky
buildings
roads
sildwalks
traffic lights
traffic signs
cars
motorcycles
persons
riders

Each PNG was segmanted by DeepLab (Ver. 3 + with the Xception_65 backbone)

③ statistical analysis

Mean and standard deviation of proportion of environmental features over the hour of driving were canculated by statistical analysis