

Software Projects

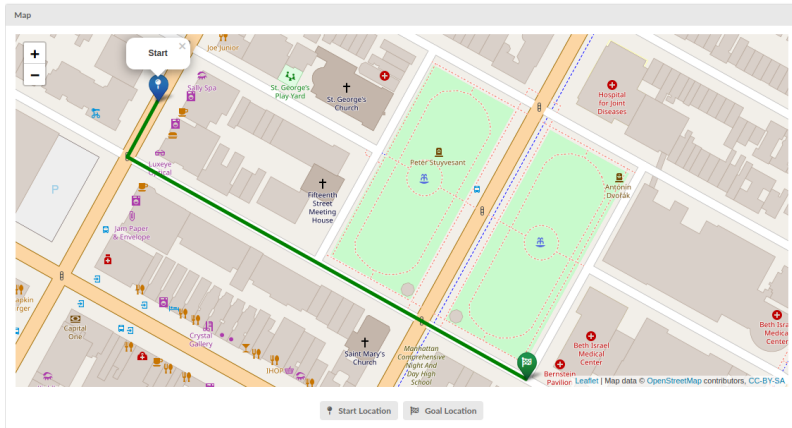
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SoSe 2021

new Dataset:

- ▶ Natural Language Landmark Navigation Instructions
- ▶ 7,672 instances
- ▶ written and validated by humans with the help of OpenStreetMap and Street View

Projects Context: Dataset Instruction Writing



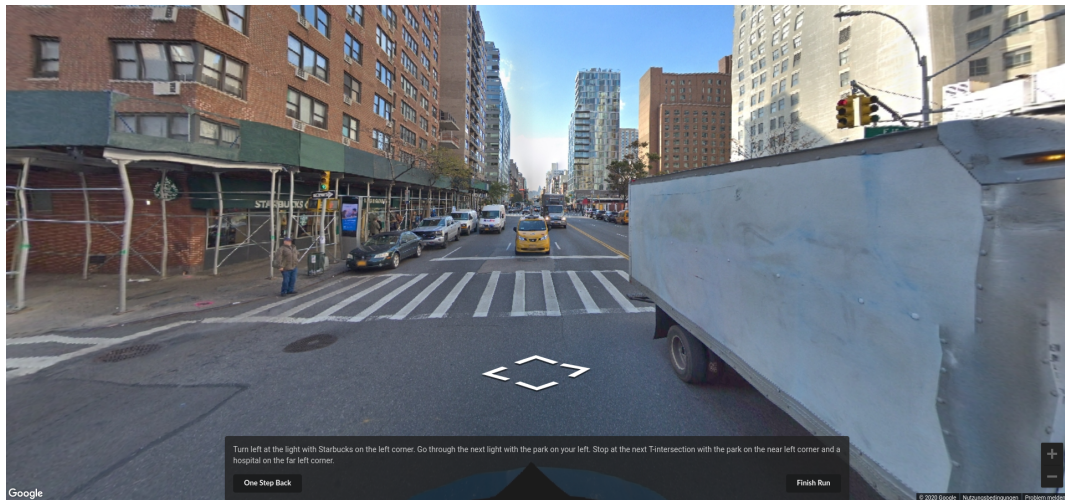
Navigation Instructions

current length: 220 (330)

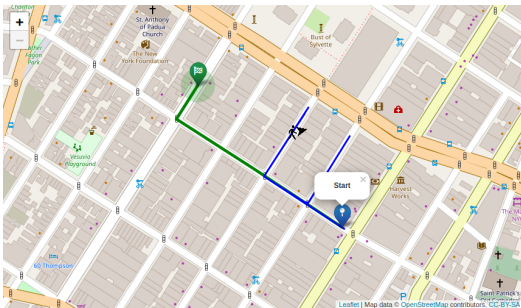
Turn left at the light with Starbucks on the left corner. Go through the next light with the park on your left. Stop at the next T-intersection with the park on the near left corner and a hospital on the far left corner.

Submit

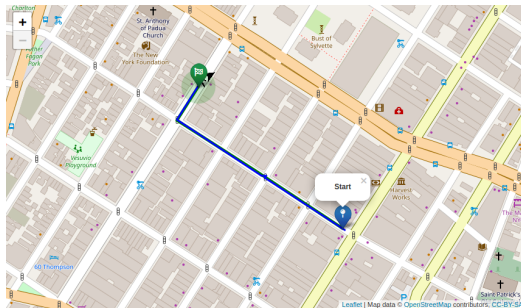
Projects Context: Dataset Navigation Run



Projects Context: Dataset Navigation Run



failed



passed

- ▶ passed when run annotator stops within 25 meter radius around goal location

Paper that introduces the dataset:

- ▶ <https://arxiv.org/pdf/2012.15329.pdf>

Website to explore the dataset

- ▶ <https://map2seq.schumann.pub>
- ▶ Username: coli
- ▶ Password: 325inf

1. rule-based system to generate navigation instructions
2. detect mentions of landmarks in the instructions text

1. Project: Rule Based Navigation Instructions

Design a system that generates landmark navigation instructions for a given route in OpenStreetMap.

- ▶ use tools like SimpleNLG [Gatt and Reiter 2009]
- ▶ it is possible to use the dataset to extract certain phrase templates or learn landmark usage statistics
- ▶ evaluation of generated navigation instructions in Street View

2. Project: Detect Landmark Mentions in Navigation Instructions Text

Take your first right, at the intersection with **a church** on the opposite corner. Go straight for the next three blocks and stop just after the third light, where there will be **restaurants** to your right and left. If you see **Union Square park** to your right, you've gone a block too far.

- ▶ tagging problem, similar to Named Entity Recognition (NER)
- ▶ any approach possible (SVM, CRF, neural, ...)
- ▶ tag instructions from the dataset and evaluate/compare your approaches