Phantom Auto relies on publicly available telecom networks to enable teleoperation for different kinds of vehicles. To assess the area's suitability for teleoperation, it is essential for us to understand the network conditions as they largely determine the amount of data that can be transferred between the vehicle and the operator with a tolerable delay.

You are provided with two datasets from some of our test drives in an area:

gps

- connection_id – unique identifier of a connection between the vehicle and the remote operator
- time – timestamp of the observation
- lat – vehicle position latitude
- lng – vehicle position longitude

signal

- conneciton_id
- time
- rsrp – Reference Signal Received Power
- sinr – signal-to-interference-plus-noise ratio

Using the data enclosed, please provide answers to the following questions:

1. Which parts of the tested area demonstrate higher / lower quality of the signal?
2. Does signal quality depend on vehicle's speed?

Bonus points:

- Interactive map visualization
- Interesting patterns in the data

Please prepare a 15-minute presentation that goes over:

1. Overall approach
2. Insights into the questions asked: map and other visualizations as necessary that can be understood by a non-technical audience
3. Steps taken to prepare the data – for technical audience
4. Choice of tools – interested in why a particular tool was chosen rather than a "perfect" stack

We suggest using PowerPoint-like format (not more than 15 slides) for the presentation and submit your code alongside. Jupyter / R notebook could be used to provide a deeper insight into the study.