**Challenge Context**

The EY NextWave Data Science Challenge 2019 focuses on how data can help the next smart city thrive, and boost the mobility of the future. Global urbanization is on the rise, with more than 50% of the world’s population living in cities; according to the UN, that number will reach 60% by 2030 – that’s nearly 1.5 billion more than in 2010.

While this trend creates great opportunities for cities, it also presents challenges to governments on how to upgrade infrastructure, alleviate congestion and address pollution. Electric and autonomous vehicles, along with the explosion of the ride sharing economy, are helping to address these challenges which also disrupt mobility and demand innovative solutions.

In parallel, public authorities have more information than ever on how citizens move around in the city. However, a gap exists between having this data and using it to improve the user travel experience for citizens. Forward-looking authorities have a chance to innovate infrastructure to make their city a better place to live in a better working world.If you dig deep enough, your work could inspire solutions that help city authorities anticipate disruptions, make real-time decisions, design new services, and reshape infrastructures in order that cities as smart as their citizens.

1. Data set featured anonymized GPS information for a set of people in the state of Georgia during October 2018 in the form of partial trajectories. Our task was to use this data to predict if the person would have a destination inside the “city centre” (x,y) boundary. All GPS trackers reset every 24 hours so each day of data was completely independent and untraceable.
2. Researched papers and ideas surrounding this topic and the wider picture.
3. Concluded that people at similar positions tend to be going to the same location.
4. A KNN on (x,y) coordinate data of people was a relatively simple method that required the least amount of time.
5. I eliminated variables that were not relevant and only over complicated the model.
6. I explored a variety of ‘K’ models with different distance metrics and training data samples.
7. Possible implementations include targeted advertising, urban planning, rideshare services and augmented reality uses.

See this for General uses:

<https://www.scnsoft.com/blog/iot-for-smart-city-use-cases-approaches-outcomes#use-cases>