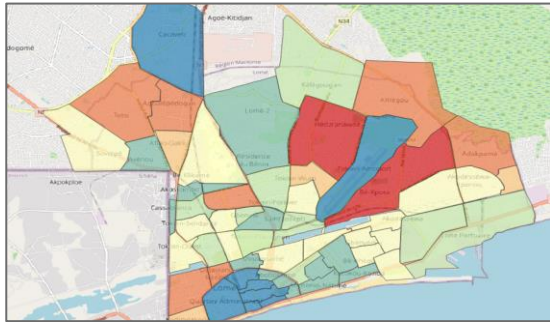


Kodjo TOSSOU, Supervisors : Oumaya BAALA, Tchamye BOROZE, Sid LAMROUS



Motivation and Objectives

- Predict the needs of mobile users to optimize the handover process
- Predict the congestion in cells to dynamically change antenna's parameters
- Reduce the impact of the growing number of subscriber by knowing the distribution of inhabitants for a given period.
- Improve traffic flow for each subscriber to improve their experience

Materials and Methods

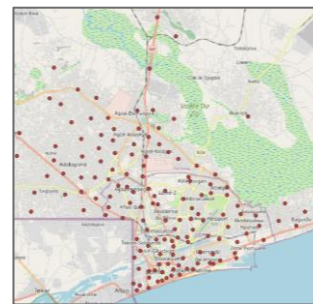
Data generation :

- INSEED Census data
- Antenna's position

Human mobility model :

- Determine the weight of each grid
- Using land use label, the grid weight and the period of the day to determine the population of a grid
- Considering the absorption degree of an item, either it's a building, or a road

AI Optimization model



Area of study

City of Lomé in Togo

Grid of **25m x 25m** squares

Each square is covered by one antenna or more.

Results

- 1. Subscriber** : Call in, call out, sms in, sms out and presence data
- 2. Landuse classification** : The land use of each grid.
- 3. Attractiveness coefficient** : The portion of the population for a given grid during a given period.

Perspectives

- Validate the simulation results with empirical data from operators
- Use generated data as input for the optimization model
- Optimize the QoS of operators network by dynamically changing engineering parameters