

The conclusions I drew from the data set is that there are multiple hotspots of popular scooter usage. The operation time cost ( how long it takes to charge all the scooters) is the total amount of charge all the scooters can have i.e  $25,667 * 5$  (number of scooters \* max charge level) which is 128,335 - the total charge level of the scooters currently which is 64,069.  $128,335 - 64,069$  is 64,266. So  $64,266 / 5$  is equal to the operation time cost to charge all the scooters. Dividing by 5 because i am assuming it takes one hour to jump from one charge level to the next i.e one hour to go from 0-1, one hour to go from 1-2 and so on. The operation time cost to charge all the scooters to a charge level of 5 is roughly 12,854 hours. Efficiency in this case is defined by having the most number of scooters at a charge level of 5 in the shortest amount of time because when scooters are at a charge level of 5 the more usage comes from them on a daily basis and therefore results in higher profits and I believe that my method would accomplish this best. the hotspots I discovered using a scatter plot of all the (x,y) coordinates. I believe the most efficient way to charge all the scooters is to go to each of these hotspots and take the scooters that are at a charge level of 4 and charge them to five. Then move on to scooters with a charge level of 3, then 2, then 1, and finally 0. After charging each scooter at these different charge levels i would drop them off in the area with three nearby hotspots (shown in scatterplot in GitHub repo).