

## Responsibilities

- Planned an algorithm that helped find the optimal places to place the new landlines.
- Worked with the group to create the code.
- Visualized the output using Google Earth.

## Acknowledgements

I owe great thanks to Mr Bhatnagar, a great mentor, who helped me learn a lot throughout this experience.



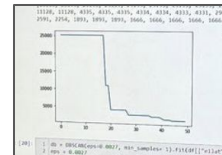
## Airtel's Vision

As with many other telecom companies, Airtel had to plan where to place new landlines without wasting too much money and effort. They decided to assign a data scientist the task of finding the optimal landline locations to improve their services in areas with poor connectivity. This was the role I was given during my internship.

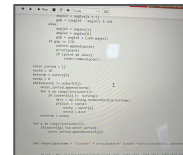
## Abstract

During my internship at Bharti Airtel Limited, I primarily worked at their headquarters in Gurugram, India. My mentor was Vikas Bhatnagar, the vice president of the Networks Digitization team. My responsibilities included planning, design, and coding for automation. Specifically, I collaborated with my team to use the data, which included locations on poor landlines, to create a program which can elaborate where to create the new landlines. I accomplished this project and included a visual representation of the locations of the new landlines using google earth. This was done through programming with Python, collaboration, analysis, and more visualization tools / skills. It has also led me to learn more skills such as KML, more knowledge on Convolutional Neural Networks (CNNs), and improved my ability to control my nervousness. This project was done through using jupyter notebook as the main code editor, a variety of python libraries, datasets, and google earth. I had also developed great relations with the team members, so much that on the last day, we went outside to a restaurant together. This was a great experience, it has a large influence on my view of pursuing computer science. It helped me confirm that my interest is in data science, it helped me stabilize a plan on how to pursue my interest as well. During this project, I had a first hand experience on multiple areas of data science, helping me learn more about data science. These key points are very beneficial for my future career.

## Data, Results, & Photos



Finding the best eps value for the DBScan using the elbow method on jupyter notebook



A snippet of the code which is responsible for determining exterior points



An example output cluster on google earth



A picture of the office's interior

## Future Implications

- Will apply knowledge from various topics in data science.
- Will gain insights into the role of a data scientist through firsthand experience.
- Will develop greater confidence in the field.
- Will receive guidance on potential career paths to become a proficient data scientist.