

1. DATA GATHERING AND PROCESSING

The data will be gathered from http://ecdoe.co.za/files/resources/resource_260.xlsx. The data contains district names, latitude and longitude, suburb and other unrelated info. Which we will use pandas to manipulate and clean. For each district we will check the best school's recommender for teacher to pursue career on, based on the school rating and areas of interest around the district. We mainly focus on the Eastern Cape province, where there is low pass rate.

We will then use foursquare and folium to analyse and create clusters. Based on the map created teachers can see that even in the rural areas there are good places to visit and spend time on with a family. Afterall the project will trigger attraction to all different parts of province, as such attract and retain good quality teacher. It will show them closest Towns or Cities they can reside on while teaching in rural areas. And how much accommodation cost around those areas.

Belo is the example from the data from the link provided.

NatEmis	Official Institution Name	EIDistrict	EICircuit	Cluster	Sector	Phase_DoE	STATUS	Institution_Type
200100001	A V BUKANI PRIMARY SCHOOL	UITENHAGE	CIRCUIT 4	C	Public	PRIMARY SCHOOL	OPERATIONAL	ORDINARY SCHOOL
200100002	AARON GQADU PRIMARY SCHOOL	PORT ELIZABETH	Circuit 6	C	Public	COMBINED SCHOOL	OPERATIONAL	ORDINARY SCHOOL
200100003	ABERDEEN PRIMARY PUBLIC SCHOOL	GRAAFF-REINET	Circuit 2	C	Public	PRIMARY SCHOOL	OPERATIONAL	ORDINARY SCHOOL
200100005	ABERDEEN SECONDARY SCHOOL	GRAAFF-REINET	Circuit 2	C	Public	SECONDARY SCHOOL	OPERATIONAL	ORDINARY SCHOOL
200100006	ABRAHAM LEVY PRIMARY SCHOOL	PORT ELIZABETH	Circuit 8	C	Public	PRIMARY SCHOOL	OPERATIONAL	ORDINARY SCHOOL
200100007	WINGS AVIATION ACADEMY	FORT BEAUFORT	INDEPENDENT	C	Independent/Private	SECONDARYSCHOOL	OPERATIONAL	ORDINARY SCHOOL
200100009	ADDO PRIMARY SCHOOL	UITENHAGE	CIRCUIT 4	C	Public	PRIMARY SCHOOL	OPERATIONAL	ORDINARY SCHOOL
200100010	UMICARE REMEDIAL SCHOOL	PORT ELIZABETH	Circuit 11	C	Independent/Private	PRIMARYSCHOOL	OPERATIONAL	ORDINARY SCHOOL
200100011	BLESSINGS CHRISTIAN PRIMARY LEARNING ACADEMY	PORT ELIZABETH	Circuit 11	C	Independent/Private	PRIMARYSCHOOL	OPERATIONAL	ORDINARY SCHOOL
200100012	ADELAIDE GYMNASIUM	FORT BEAUFORT	CIRCUIT 8	C	Public	SECONDARY SCHOOL	OPERATIONAL	ORDINARY SCHOOL
200100013	ADELAIDE PRIMARY SCHOOL	FORT BEAUFORT	CIRCUIT 8	C	Public	PRIMARY SCHOOL	OPERATIONAL	ORDINARY SCHOOL
200100014	ADELAIDE JUNIOR SECONDARY SCHOOL	FORT BEAUFORT	CIRCUIT 8	C	Public	COMBINED SCHOOL	OPERATIONAL	ORDINARY SCHOOL
200100015	ADENDORP PRIMARY SCHOOL	GRAAFF-REINET	Circuit 3	C	Public	PRIMARY SCHOOL	OPERATIONAL	ORDINARY SCHOOL
200100016	ADOLPH SCHAUDER PRIMARY SCHOOL	PORT ELIZABETH	Circuit 8	C	Public	PRIMARY SCHOOL	OPERATIONAL	ORDINARY SCHOOL
200100018	AEROVILLE SECONDARY SCHOOL	GRAAFF-REINET	Circuit 4	C	Public	SECONDARY SCHOOL	OPERATIONAL	ORDINARY SCHOOL
200100019	AL-AZHAR PRIMARY SCHOOL	PORT ELIZABETH	Circuit 11	C	Independent/Private	COMBINED SCHOOL	OPERATIONAL	ORDINARY SCHOOL
200100020	ALEX JAYIYA PRIMARY SCHOOL	UITENHAGE	CIRCUIT 5	C	Public	PRIMARY SCHOOL	OPERATIONAL	ORDINARY SCHOOL
200100021	ALEXANDER ROAD HIGH SCHOOL	PORT ELIZABETH	Circuit 3	C	Public	SECONDARY SCHOOL	OPERATIONAL	ORDINARY SCHOOL
200100022	KING'S KIDZ SCHOOL	FORT BEAUFORT	CIRCUIT 7	C	Independent/Private	PRIMARY SCHOOL	OPERATIONAL	ORDINARY SCHOOL
200100023	ALEXANDRIA PRIMARY SCHOOL	GRAHAMSTOWN	CIRCUIT 4	C	Public	PRIMARY SCHOOL	OPERATIONAL	ORDINARY SCHOOL
200100024	ALEXANDRIA HIGH SCHOOL	GRAHAMSTOWN	CIRCUIT 4	C	Public	COMBINED SCHOOL	OPERATIONAL	ORDINARY SCHOOL
200100025	ALPHA PRIMARY SCHOOL	PORT ELIZABETH	Circuit 8	C	Public	PRIMARY SCHOOL	OPERATIONAL	ORDINARY SCHOOL