Weekly Report

**Update on regression**

I standardized my data and run the regression again. The results (see below) looks similar to the original model.

**A close up of text on a white background

Description automatically generated**

A close up of a white wall

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The above residual plot suggests that **heteroskedasticity** is present as there is an evident pattern in the plot.

I use lmrob() function from the {robustbase} package to deal with heteroskedasticity. This package is quite interesting and offers quite a lot of functions for robust linear, and nonlinear, regression models. This new model, however, gives me different estimates than when fitting a linear regression model. This might because the estimation method is different and also robust to outliers. The results (see below) shows that the R-square and Adjusted R-square has been largely improved. The number of healthcare workers is now significant, and the number of major airports is no longer significant compared to the original model.

A screenshot of a cell phone

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However, I run Breusch-Pagan test to check for heteroskedasticity. The result (see below) indicates that with a p-value greater than 0.05, I fail to reject the null hypothesis that there is no heteroskedasticity issue in the original model. The residuals were homoscedastic at both 90% and 95% level of statistic confidence.

A picture containing bird

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