**REGRESSION RESULTS REPORT**

Multiple linear regression was used to test if Previous Job Changes, Graduation Marks, Exp (months), College Tier, Role, and City type predicted CTC.

The fitted regression model equation was:

Y = 45,434.8419 + 0.4516x1 – 29.0412x2 -3.6524x3 + 258.9406x4 + 3,383.9125x5 – 2,108.0935x6 – 1,275.8190x7 – 9,679.9718x8 + 9,679.9718x9 + 2,040.2887x10 – 2,040,2887x11

Where:

x1 = Previous CTC

x2 = Previous job changes

x3 = Graduation marks

x4 = Exp (Months)

x5 = College\_Tier 1

x6 = College\_Tier 2

x7 = College\_Tier 3

x8 = Role\_Executive

x9 = Role\_Manager

x10 = City type\_Metro

x11 = City type\_Non-Metro

The overall regression was statistically significant (R2 = 0.608, F(8, 1329) = 257.9, p < .000).

It was found that **Previous CTC** significantly predicted CTC (β = 0.4516, p = 0).

It was found that **Previous job changes** did not significantly predict CTC (β = -29.0412, p = 0.880)

It was found that **Graduation marks** did not significantly predict CTC (β = -3.6524, p = 0.801)

It was found that **Exp (Months)** significantly predicted CTC (β = 258.9406, p = 0)

It was found that **College\_Tier 1** significantly predicted CTC (β = 3,383.9125, p = 0)

It was found that **College\_Tier 2** significantly predicted CTC (β = -2,108.0935, p = 0)

It was found that **College\_Tier 3** significantly predicted CTC (β = 1,275.8190, p = 0)

It was found that **Role\_Executive** significantly predicted CTC (β = -9,679.9718, p = 0)

It was found that **Role\_Manager** significantly predicted CTC (β = 9,679.9718, p = 0)

It was found that **City type\_Metro** significantly predicted CTC (β = 2,040.2887, p = 0)

It was found that **City type\_Non-Metro** significantly predicted CTC (β = -2,040.2887, p = 0)

**Model Evaluation Metrics**

See below the values of MAE, MSE, and RMSE

|  |  |
| --- | --- |
| Mean Absolute Error | 6,166.6066 |
| Mean Squared Error | 61,728,794.1097 |
| Root Mean Squared Error | 7,856.7674 |

**Analyses**

1. Previous CTC, Exp (Months), College\_Tier 1, College\_Tier 2, College\_Tier 3, Role\_Executive, Role\_Manager, City type\_Metro, and City type\_Non-Metro have small p-values. This means that there is association between the features and CTC.
2. Previous job changes, and Graduation marks have a large p-value. This means that there is no association between the features and CTC.
3. The features Previous CTC, Exp (Months), College\_Tier 1, Role\_Manager, and City type\_Metro are positively associated to CTC
4. The features College\_Tier 2, Role\_Executive, City type\_Non-Metro, College\_Tier 3 are negatively associated to CTC.
5. The features Previous job changes, and Graduation marks though they appear to be negatively associated with CTC but they have little or no effect on CTC
6. The MAE and RMSE show that the predicted CTC and Actual CTC vary considerable. This can be a result of a combination of factors including
7. Presence of outliers
8. Underfitting of regression model which means the relationship between the features and CTC are not exactly linear. This may require employing more robust models.
9. The provided features may not be sufficient to properly model the relationship between features and CTC.