**Regression Models**

* **R² Score (Coefficient of Determination)**: Measures the proportion of variance explained by the model (higher is better, max = 1).
* **Mean Absolute Error (MAE)**: Average of absolute differences between predictions and actual values.
* **Mean Squared Error (MSE)**: Average squared difference between predictions and actual values (penalizes large errors more heavily).
* **Root Mean Squared Error (RMSE)**: Square root of MSE, providing error in the same scale as the data.

#data preprocessing  
initially there were 28242 rows.  
In preprocessing, while removing ouliers from the data  
Considered avg\_temp, we removed some row using IQR method  
after deleting rows, the number of rows reduced to 28208

#Linear regression

R²: 0.7579410421673518

Mean Absolute Error (MAE): 0.34531711028697226

Mean Squared Error (MSE): 0.24332771001040426

Root Mean Squared Error (RMSE): 0.4932825863644532

# Random forest Regression  
R²: 0.9888849133445998

Mean Absolute Error (MAE): 0.0380927226643703

Mean Squared Error (MSE): 0.011173346389005

Root Mean Squared Error (RMSE): 0.10570405095834785

#Support vector regression  
R²: -0.16464462823913295

Mean Absolute Error (MAE): 0.6638184601729213

Mean Squared Error (MSE): 1.170749113781089

Root Mean Squared Error (RMSE): 1.0820116051970463

# Gradient Boosting regression  
R²: 0.777549001717296

Mean Absolute Error (MAE): 0.2866156852646652

Mean Squared Error (MSE): 0.223616975328306

Root Mean Squared Error (RMSE): 0.4728815658579915