

# Mansurjonov Nurmuhammad

## Loyiha Maqsadi

Ushbu loyihada biz hyperparameter tuningni negative effectini tuzatishni (KNN, Logistic Regression va Random Forest Regressor da korib chiqdik

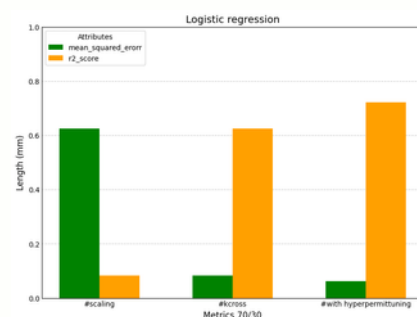
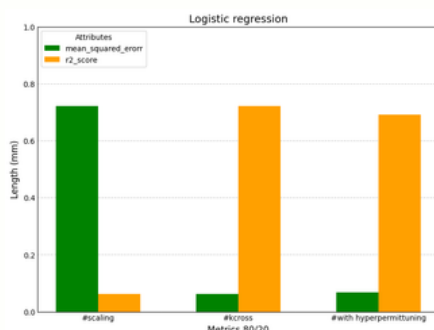
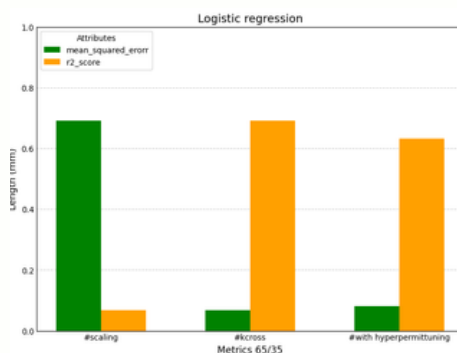
## Qilingan bosqichlar

Biz avvalo datani o'rnatdik va tushib qolgan qiymatlarni toldirib barchasi integer xolatiga otkazib oldik. Keyin datani input va output xolatiga otkazib train va test uchun ajratib oldik. Undan so'ng scaling, k-fold cross-validation va Hyperparameter Tuning qilib barchasidan chiqqan accuracy scorelarni taqqosladik va Hyperparameter Tuningni negative effectini korib chiqdik

## Hyperparameter Tuningni negative effectini tog'irlash uchun qilingan bosqichlar

Hyperparameter Tuningni negative effectini tog'irlash uchun biz avvalo datadan tushib qolgan qiymatlarni qaytadan tekshirib chiqdik. Keyin esa train va test uchun ajratilgan datani qaytadan bolib chiqadik masalan: 70/30, 65/35 va 80/20 shu shaklda, va boshqa modellarda ham qollab kordik

## Logistic Regression Natijalar



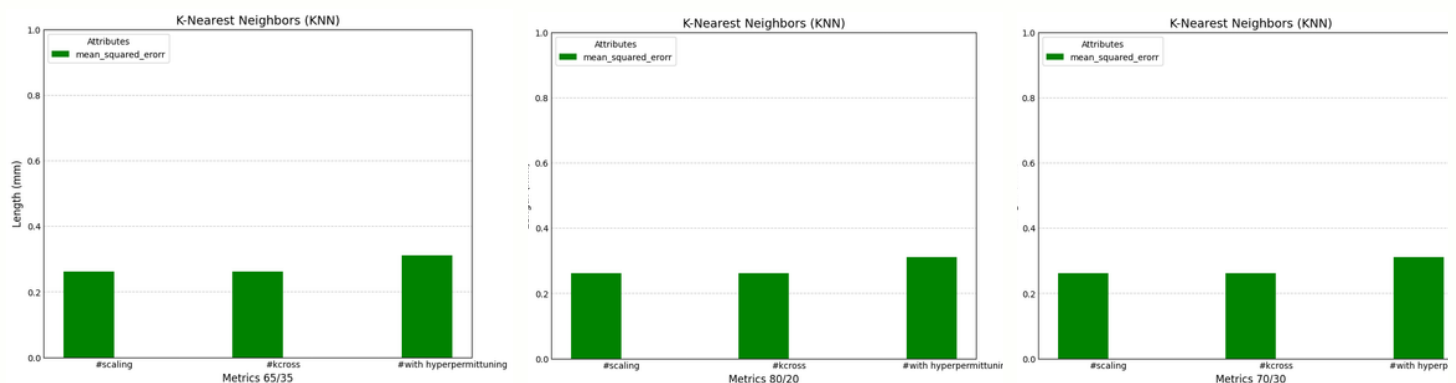
Bu yerda biz Hyperparameter Tuningni negative effectini tuzatish maqsadida train va test uchun ajratilgan data turli xilda bolingan xolatini korishimiz mumkun masalan 70/30, 65/35 va 80/20. Natijani mean squared error bilan r2 score orqali aniqladik

# Random Forrest Regressor Natija



Random Forrest Regressor model orqali Hyperparameter Tuningni negative effectini tuzatish maqsadida train va test uchun ajratilgan data turli xilda bolingan xolatini korishimiz mumkun masalan 70/30,65/35 va 80/20. Natijani mean squared error bilan r2 score orqali aniqladik

## K-Nearest Neighbors (KNN) Natija



K-Nearest Neighbors (KNN) model orqali Hyperparameter Tuningni negative effectini tuzatish maqsadida train va test uchun ajratilgan data turli xilda bolingan xolatini korishimiz mumkun masalan 70/30,65/35 va 80/20. Natijani accuracy score orqali aniqladik

## Xulosa

Xulosa: Biz Hyperparameter Tuningni negative effectini barcha modellar orqali sinab kordik va uni tuzatishga harakat qilib kordik. Eng yahshi natijani esa Logistic Regression modelida kormshimiz mumkun.