Medical insurance premium prediction is an important area of research that aims to accurately estimate the cost of healthcare for individuals based on their medical history and other relevant factors.

Deliverables

1. Notebook
2. Serve the model through FastApi to production
3. Deploy model
4. Add UI for enhanced usability
5. Present to client

In this study, I considered the performance of three different machine learning models for medical insurance premium prediction: linear regression, gradient boosting regression, and random forest regression

I used a dataset of medical insurance claims and demographic information to train and evaluate the models.

The data was preprocessed and feature engineered to ensure optimal model performance. I used root mean squared error (RMSE) and R-squared as evaluation metrics to compare the performance of the different models.

The results showed that all four models were able to predict medical insurance premiums with reasonable accuracy but gradient boosting regressor outperformed well so that model was selected.

The selected model can provide valuable insights for healthcare providers and policy makers to improve the cost-effectiveness and quality of healthcare services.