# Regression Algorithm Report

## 1. Objective

Predict insurance premium charges using AI based on the following features: Age, Sex, BMI, Number of Children, and Smoking Habit.

## 2. Dataset

The dataset has dimensions of 1338 × 6 (1338 rows and 6 columns). Both input features and the target (insurance charges) are present.

## 3. Preprocessing

Since the dataset includes categorical variables such as sex and smoker, one-hot encoding was applied.

## 4. Algorithm Selection

As the target variable is continuous, a supervised regression algorithm is suitable. Various models were tested with different hyperparameters to identify the best-performing model.

## 5. Evaluation

Models were evaluated using the R² score.

• Multiple Linear Regression: R² ≈ 0.78  
• SVM Regression: Performance varied with kernels and parameters, R² ranging from negative values to ≈ 0.75  
• Decision Tree Regression: R² ranged between 0.59 and 0.77 depending on criterion and splitter  
• Random Forest Regression: Achieved the best results with the highest R² = 0.8931  
  
All R² scores for different configurations are provided in the tables below.

## 6. Best Model

Random Forest Regressor with the following parameters:  
• n\_estimators = 50  
• criterion = poisson  
• max\_depth = 5  
• min\_samples\_split = 2  
• min\_samples\_leaf = 10  
  
Performance:  
• R² ≈ 0.893  
  
Conclusion: After comparing multiple regression algorithms, the Random Forest Regressor achieved the best performance. This model can be reliably used for predicting insurance premium charges.

## Results

Multiple Linear Regression: R Score - 0.78

SVM Results:

|  |  |  |
| --- | --- | --- |
| **C** | **Kernel** | **R Score** |
| 0.01 | linear | -0.088831334 |
| 0.01 | rbf | -0.089645537 |
| 0.01 | poly | -0.089568285 |
| 0.01 | sigmoid | -0.089565016 |
| 0.1 | linear | -0.080959968 |
| 0.1 | rbf | -0.089074515 |
| 0.1 | poly | -0.088302377 |
| 0.1 | sigmoid | -0.088269915 |
| 10 | linear | 0.462468414 |
| 10 | rbf | -0.032273294 |
| 10 | poly | 0.038716223 |
| 10 | sigmoid | 0.039307144 |
| 100 | linear | 0.628879286 |
| 100 | rbf | 0.320031783 |
| 100 | poly | 0.617956962 |
| 100 | sigmoid | 0.527610355 |
| 200 | linear | 0.635611016 |
| 200 | rbf | 0.479029091 |
| 200 | poly | 0.75163526 |
| 200 | sigmoid | 0.545553207 |
| 500 | linear | 0.763105805 |
| 500 | rbf | 0.664298465 |
| 500 | poly | 0.826368354 |
| 500 | sigmoid | 0.444606103 |

Decision Tree:

|  |  |  |  |
| --- | --- | --- | --- |
| **criterion** | **splitter** | **max\_features** | **R Score** |
| squared\_error | best | sqrt | 0.738535315 |
| squared\_error | best | log2 | 0.734909152 |
| squared\_error | best |  | 0.706691175 |
| squared\_error | random | sqrt | 0.660058289 |
| squared\_error | random | log2 | 0.627973246 |
| squared\_error | random |  | 0.697495781 |
| friedman\_mse | best | sqrt | 0.67890806 |
| friedman\_mse | best | log2 | 0.761270133 |
| friedman\_mse | best |  | 0.695738099 |
| friedman\_mse | random | sqrt | 0.650293723 |
| friedman\_mse | random | log2 | 0.676730997 |
| friedman\_mse | random |  | 0.713760761 |
| absolute\_error | best | sqrt | 0.713356976 |
| absolute\_error | best | log2 | 0.697985412 |
| absolute\_error | best |  | 0.672228304 |
| absolute\_error | random | sqrt | 0.692669894 |
| absolute\_error | random | log2 | 0.69827347 |
| absolute\_error | random |  | 0.734970652 |
| poisson | best | sqrt | 0.667222403 |
| poisson | best | log2 | 0.777917208 |
| poisson | best |  | 0.712211016 |
| poisson | random | sqrt | 0.656313056 |
| poisson | random | log2 | 0.593555241 |
| poisson | random |  | 0.723977583 |

Random Forest:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **n\_estimators** | **criterion** | **max\_depth** | **min\_samples\_split** | **min\_samples\_leaf** | **r\_score** |
| 50 | squared\_error | 5 | 2 | 1 | 0.88140136 |
| 50 | squared\_error | 5 | 2 | 3 | 0.8913365 |
| 50 | squared\_error | 5 | 2 | 5 | 0.89078743 |
| 50 | squared\_error | 5 | 2 | 10 | 0.89179811 |
| 50 | squared\_error | 5 | 5 | 1 | 0.88210604 |
| 50 | squared\_error | 5 | 5 | 3 | 0.89080588 |
| 50 | squared\_error | 5 | 5 | 5 | 0.88974485 |
| 50 | squared\_error | 5 | 5 | 10 | 0.89011079 |
| 50 | squared\_error | 5 | 10 | 1 | 0.88386222 |
| 50 | squared\_error | 5 | 10 | 3 | 0.89252696 |
| 50 | squared\_error | 5 | 10 | 5 | 0.89145071 |
| 50 | squared\_error | 5 | 10 | 10 | 0.89180515 |
| 50 | squared\_error | 10 | 2 | 1 | 0.8610395 |
| 50 | squared\_error | 10 | 2 | 3 | 0.88018786 |
| 50 | squared\_error | 10 | 2 | 5 | 0.88556263 |
| 50 | squared\_error | 10 | 2 | 10 | 0.88879801 |
| 50 | squared\_error | 10 | 5 | 1 | 0.8713307 |
| 50 | squared\_error | 10 | 5 | 3 | 0.88168962 |
| 50 | squared\_error | 10 | 5 | 5 | 0.88585811 |
| 50 | squared\_error | 10 | 5 | 10 | 0.88803456 |
| 50 | squared\_error | 10 | 10 | 1 | 0.8710184 |
| 50 | squared\_error | 10 | 10 | 3 | 0.88337816 |
| 50 | squared\_error | 10 | 10 | 5 | 0.88513199 |
| 50 | squared\_error | 10 | 10 | 10 | 0.88860573 |
| 50 | squared\_error |  | 2 | 1 | 0.85217019 |
| 50 | squared\_error |  | 2 | 3 | 0.88322973 |
| 50 | squared\_error |  | 2 | 5 | 0.88375318 |
| 50 | squared\_error |  | 2 | 10 | 0.8893717 |
| 50 | squared\_error |  | 5 | 1 | 0.86574696 |
| 50 | squared\_error |  | 5 | 3 | 0.88189111 |
| 50 | squared\_error |  | 5 | 5 | 0.88731618 |
| 50 | squared\_error |  | 5 | 10 | 0.88638667 |
| 50 | squared\_error |  | 10 | 1 | 0.87913277 |
| 50 | squared\_error |  | 10 | 3 | 0.88505778 |
| 50 | squared\_error |  | 10 | 5 | 0.884099 |
| 50 | squared\_error |  | 10 | 10 | 0.88696809 |
| 50 | absolute\_error | 5 | 2 | 1 | 0.88690603 |
| 50 | absolute\_error | 5 | 2 | 3 | 0.89195946 |
| 50 | absolute\_error | 5 | 2 | 5 | 0.89202189 |
| 50 | absolute\_error | 5 | 2 | 10 | 0.88928261 |
| 50 | absolute\_error | 5 | 5 | 1 | 0.88917305 |
| 50 | absolute\_error | 5 | 5 | 3 | 0.89163124 |
| 50 | absolute\_error | 5 | 5 | 5 | 0.89078708 |
| 50 | absolute\_error | 5 | 5 | 10 | 0.88935775 |
| 50 | absolute\_error | 5 | 10 | 1 | 0.88638519 |
| 50 | absolute\_error | 5 | 10 | 3 | 0.89152622 |
| 50 | absolute\_error | 5 | 10 | 5 | 0.89125399 |
| 50 | absolute\_error | 5 | 10 | 10 | 0.89005126 |
| 50 | absolute\_error | 10 | 2 | 1 | 0.86736744 |
| 50 | absolute\_error | 10 | 2 | 3 | 0.88866576 |
| 50 | absolute\_error | 10 | 2 | 5 | 0.89300692 |
| 50 | absolute\_error | 10 | 2 | 10 | 0.88965445 |
| 50 | absolute\_error | 10 | 5 | 1 | 0.87152798 |
| 50 | absolute\_error | 10 | 5 | 3 | 0.88856974 |
| 50 | absolute\_error | 10 | 5 | 5 | 0.89131694 |
| 50 | absolute\_error | 10 | 5 | 10 | 0.89003917 |
| 50 | absolute\_error | 10 | 10 | 1 | 0.87714418 |
| 50 | absolute\_error | 10 | 10 | 3 | 0.89247244 |
| 50 | absolute\_error | 10 | 10 | 5 | 0.89177958 |
| 50 | absolute\_error | 10 | 10 | 10 | 0.88980481 |
| 50 | absolute\_error |  | 2 | 1 | 0.85227698 |
| 50 | absolute\_error |  | 2 | 3 | 0.88825346 |
| 50 | absolute\_error |  | 2 | 5 | 0.89138734 |
| 50 | absolute\_error |  | 2 | 10 | 0.88973671 |
| 50 | absolute\_error |  | 5 | 1 | 0.86992862 |
| 50 | absolute\_error |  | 5 | 3 | 0.88856443 |
| 50 | absolute\_error |  | 5 | 5 | 0.89255994 |
| 50 | absolute\_error |  | 5 | 10 | 0.889557 |
| 50 | absolute\_error |  | 10 | 1 | 0.88150808 |
| 50 | absolute\_error |  | 10 | 3 | 0.89162654 |
| 50 | absolute\_error |  | 10 | 5 | 0.89293323 |
| 50 | absolute\_error |  | 10 | 10 | 0.88974083 |
| 50 | friedman\_mse | 5 | 2 | 1 | 0.87734159 |
| 50 | friedman\_mse | 5 | 2 | 3 | 0.88982577 |
| 50 | friedman\_mse | 5 | 2 | 5 | 0.89022826 |
| 50 | friedman\_mse | 5 | 2 | 10 | 0.89094794 |
| 50 | friedman\_mse | 5 | 5 | 1 | 0.88675687 |
| 50 | friedman\_mse | 5 | 5 | 3 | 0.88971388 |
| 50 | friedman\_mse | 5 | 5 | 5 | 0.89243908 |
| 50 | friedman\_mse | 5 | 5 | 10 | 0.89026517 |
| 50 | friedman\_mse | 5 | 10 | 1 | 0.88479973 |
| 50 | friedman\_mse | 5 | 10 | 3 | 0.89238109 |
| 50 | friedman\_mse | 5 | 10 | 5 | 0.89217681 |
| 50 | friedman\_mse | 5 | 10 | 10 | 0.89101524 |
| 50 | friedman\_mse | 10 | 2 | 1 | 0.85780203 |
| 50 | friedman\_mse | 10 | 2 | 3 | 0.88182562 |
| 50 | friedman\_mse | 10 | 2 | 5 | 0.88757744 |
| 50 | friedman\_mse | 10 | 2 | 10 | 0.88882291 |
| 50 | friedman\_mse | 10 | 5 | 1 | 0.86976119 |
| 50 | friedman\_mse | 10 | 5 | 3 | 0.88281883 |
| 50 | friedman\_mse | 10 | 5 | 5 | 0.88487604 |
| 50 | friedman\_mse | 10 | 5 | 10 | 0.88964985 |
| 50 | friedman\_mse | 10 | 10 | 1 | 0.87365035 |
| 50 | friedman\_mse | 10 | 10 | 3 | 0.88307878 |
| 50 | friedman\_mse | 10 | 10 | 5 | 0.88562977 |
| 50 | friedman\_mse | 10 | 10 | 10 | 0.88868026 |
| 50 | friedman\_mse |  | 2 | 1 | 0.85578862 |
| 50 | friedman\_mse |  | 2 | 3 | 0.88219038 |
| 50 | friedman\_mse |  | 2 | 5 | 0.88623211 |
| 50 | friedman\_mse |  | 2 | 10 | 0.88969531 |
| 50 | friedman\_mse |  | 5 | 1 | 0.86583618 |
| 50 | friedman\_mse |  | 5 | 3 | 0.88168383 |
| 50 | friedman\_mse |  | 5 | 5 | 0.88686781 |
| 50 | friedman\_mse |  | 5 | 10 | 0.88820413 |
| 50 | friedman\_mse |  | 10 | 1 | 0.87380533 |
| 50 | friedman\_mse |  | 10 | 3 | 0.88312285 |
| 50 | friedman\_mse |  | 10 | 5 | 0.8856414 |
| 50 | friedman\_mse |  | 10 | 10 | 0.88850746 |
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| 50 | poisson | 5 | 2 | 3 | 0.89083034 |
| 50 | poisson | 5 | 2 | 5 | 0.89025196 |
| 50 | poisson | 5 | 2 | 10 | 0.89310303 |
| 50 | poisson | 5 | 5 | 1 | 0.88193223 |
| 50 | poisson | 5 | 5 | 3 | 0.89140603 |
| 50 | poisson | 5 | 5 | 5 | 0.89194856 |
| 50 | poisson | 5 | 5 | 10 | 0.89086082 |
| 50 | poisson | 5 | 10 | 1 | 0.88242894 |
| 50 | poisson | 5 | 10 | 3 | 0.89075761 |
| 50 | poisson | 5 | 10 | 5 | 0.89181861 |
| 50 | poisson | 5 | 10 | 10 | 0.89244683 |
| 50 | poisson | 10 | 2 | 1 | 0.85118021 |
| 50 | poisson | 10 | 2 | 3 | 0.87992826 |
| 50 | poisson | 10 | 2 | 5 | 0.88493521 |
| 50 | poisson | 10 | 2 | 10 | 0.88766653 |
| 50 | poisson | 10 | 5 | 1 | 0.86663051 |
| 50 | poisson | 10 | 5 | 3 | 0.8805221 |
| 50 | poisson | 10 | 5 | 5 | 0.88601808 |
| 50 | poisson | 10 | 5 | 10 | 0.8888751 |
| 50 | poisson | 10 | 10 | 1 | 0.87441531 |
| 50 | poisson | 10 | 10 | 3 | 0.87985032 |
| 50 | poisson | 10 | 10 | 5 | 0.88422587 |
| 50 | poisson | 10 | 10 | 10 | 0.88804545 |
| 50 | poisson |  | 2 | 1 | 0.85257765 |
| 50 | poisson |  | 2 | 3 | 0.87942125 |
| 50 | poisson |  | 2 | 5 | 0.88552375 |
| 50 | poisson |  | 2 | 10 | 0.88894667 |
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| 50 | poisson |  | 5 | 3 | 0.8822571 |
| 50 | poisson |  | 5 | 5 | 0.88557216 |
| 50 | poisson |  | 5 | 10 | 0.88667624 |
| 50 | poisson |  | 10 | 1 | 0.87106637 |
| 50 | poisson |  | 10 | 3 | 0.88288851 |
| 50 | poisson |  | 10 | 5 | 0.88604299 |
| 50 | poisson |  | 10 | 10 | 0.88854387 |
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| 100 | squared\_error | 5 | 2 | 3 | 0.89187421 |
| 100 | squared\_error | 5 | 2 | 5 | 0.89231736 |
| 100 | squared\_error | 5 | 2 | 10 | 0.89188928 |
| 100 | squared\_error | 5 | 5 | 1 | 0.88587076 |
| 100 | squared\_error | 5 | 5 | 3 | 0.89100413 |
| 100 | squared\_error | 5 | 5 | 5 | 0.89208137 |
| 100 | squared\_error | 5 | 5 | 10 | 0.89213033 |
| 100 | squared\_error | 5 | 10 | 1 | 0.88674919 |
| 100 | squared\_error | 5 | 10 | 3 | 0.89125393 |
| 100 | squared\_error | 5 | 10 | 5 | 0.89255336 |
| 100 | squared\_error | 5 | 10 | 10 | 0.89091704 |
| 100 | squared\_error | 10 | 2 | 1 | 0.85768473 |
| 100 | squared\_error | 10 | 2 | 3 | 0.88323449 |
| 100 | squared\_error | 10 | 2 | 5 | 0.88378631 |
| 100 | squared\_error | 10 | 2 | 10 | 0.88772245 |
| 100 | squared\_error | 10 | 5 | 1 | 0.86956027 |
| 100 | squared\_error | 10 | 5 | 3 | 0.88036305 |
| 100 | squared\_error | 10 | 5 | 5 | 0.88687232 |
| 100 | squared\_error | 10 | 5 | 10 | 0.88831864 |
| 100 | squared\_error | 10 | 10 | 1 | 0.87693454 |
| 100 | squared\_error | 10 | 10 | 3 | 0.88485721 |
| 100 | squared\_error | 10 | 10 | 5 | 0.88664126 |
| 100 | squared\_error | 10 | 10 | 10 | 0.88959757 |
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| 100 | squared\_error |  | 2 | 3 | 0.88136577 |
| 100 | squared\_error |  | 2 | 5 | 0.88591824 |
| 100 | squared\_error |  | 2 | 10 | 0.88950402 |
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| 100 | squared\_error |  | 5 | 5 | 0.88695104 |
| 100 | squared\_error |  | 5 | 10 | 0.88916555 |
| 100 | squared\_error |  | 10 | 1 | 0.8758093 |
| 100 | squared\_error |  | 10 | 3 | 0.88445379 |
| 100 | squared\_error |  | 10 | 5 | 0.88673056 |
| 100 | squared\_error |  | 10 | 10 | 0.88834311 |
| 100 | absolute\_error | 5 | 2 | 1 | 0.88633522 |
| 100 | absolute\_error | 5 | 2 | 3 | 0.89190483 |
| 100 | absolute\_error | 5 | 2 | 5 | 0.89156493 |
| 100 | absolute\_error | 5 | 2 | 10 | 0.8895805 |
| 100 | absolute\_error | 5 | 5 | 1 | 0.8888864 |
| 100 | absolute\_error | 5 | 5 | 3 | 0.89214439 |
| 100 | absolute\_error | 5 | 5 | 5 | 0.89110829 |
| 100 | absolute\_error | 5 | 5 | 10 | 0.88975959 |
| 100 | absolute\_error | 5 | 10 | 1 | 0.88578599 |
| 100 | absolute\_error | 5 | 10 | 3 | 0.89167879 |
| 100 | absolute\_error | 5 | 10 | 5 | 0.89129513 |
| 100 | absolute\_error | 5 | 10 | 10 | 0.89096971 |
| 100 | absolute\_error | 10 | 2 | 1 | 0.87192978 |
| 100 | absolute\_error | 10 | 2 | 3 | 0.89107234 |
| 100 | absolute\_error | 10 | 2 | 5 | 0.89237797 |
| 100 | absolute\_error | 10 | 2 | 10 | 0.88985349 |
| 100 | absolute\_error | 10 | 5 | 1 | 0.87234719 |
| 100 | absolute\_error | 10 | 5 | 3 | 0.88944887 |
| 100 | absolute\_error | 10 | 5 | 5 | 0.89211075 |
| 100 | absolute\_error | 10 | 5 | 10 | 0.88957798 |
| 100 | absolute\_error | 10 | 10 | 1 | 0.88279729 |
| 100 | absolute\_error | 10 | 10 | 3 | 0.89195975 |
| 100 | absolute\_error | 10 | 10 | 5 | 0.89217558 |
| 100 | absolute\_error | 10 | 10 | 10 | 0.88929867 |
| 100 | absolute\_error |  | 2 | 1 | 0.853811 |
| 100 | absolute\_error |  | 2 | 3 | 0.88878435 |
| 100 | absolute\_error |  | 2 | 5 | 0.89160571 |
| 100 | absolute\_error |  | 2 | 10 | 0.88948332 |
| 100 | absolute\_error |  | 5 | 1 | 0.86939486 |
| 100 | absolute\_error |  | 5 | 3 | 0.88805477 |
| 100 | absolute\_error |  | 5 | 5 | 0.89166575 |
| 100 | absolute\_error |  | 5 | 10 | 0.89012444 |
| 100 | absolute\_error |  | 10 | 1 | 0.88370894 |
| 100 | absolute\_error |  | 10 | 3 | 0.89202058 |
| 100 | absolute\_error |  | 10 | 5 | 0.89354975 |
| 100 | absolute\_error |  | 10 | 10 | 0.89059138 |
| 100 | friedman\_mse | 5 | 2 | 1 | 0.88514213 |
| 100 | friedman\_mse | 5 | 2 | 3 | 0.89069977 |
| 100 | friedman\_mse | 5 | 2 | 5 | 0.8916472 |
| 100 | friedman\_mse | 5 | 2 | 10 | 0.89152091 |
| 100 | friedman\_mse | 5 | 5 | 1 | 0.88348813 |
| 100 | friedman\_mse | 5 | 5 | 3 | 0.88992985 |
| 100 | friedman\_mse | 5 | 5 | 5 | 0.89212716 |
| 100 | friedman\_mse | 5 | 5 | 10 | 0.89158037 |
| 100 | friedman\_mse | 5 | 10 | 1 | 0.88659117 |
| 100 | friedman\_mse | 5 | 10 | 3 | 0.89029006 |
| 100 | friedman\_mse | 5 | 10 | 5 | 0.89201774 |
| 100 | friedman\_mse | 5 | 10 | 10 | 0.89152487 |
| 100 | friedman\_mse | 10 | 2 | 1 | 0.86286556 |
| 100 | friedman\_mse | 10 | 2 | 3 | 0.88125897 |
| 100 | friedman\_mse | 10 | 2 | 5 | 0.88514868 |
| 100 | friedman\_mse | 10 | 2 | 10 | 0.88962018 |
| 100 | friedman\_mse | 10 | 5 | 1 | 0.86930814 |
| 100 | friedman\_mse | 10 | 5 | 3 | 0.88243395 |
| 100 | friedman\_mse | 10 | 5 | 5 | 0.88714721 |
| 100 | friedman\_mse | 10 | 5 | 10 | 0.88864804 |
| 100 | friedman\_mse | 10 | 10 | 1 | 0.87694993 |
| 100 | friedman\_mse | 10 | 10 | 3 | 0.88533108 |
| 100 | friedman\_mse | 10 | 10 | 5 | 0.88746743 |
| 100 | friedman\_mse | 10 | 10 | 10 | 0.88878783 |
| 100 | friedman\_mse |  | 2 | 1 | 0.8535699 |
| 100 | friedman\_mse |  | 2 | 3 | 0.88460985 |
| 100 | friedman\_mse |  | 2 | 5 | 0.88638614 |
| 100 | friedman\_mse |  | 2 | 10 | 0.887803 |
| 100 | friedman\_mse |  | 5 | 1 | 0.86139514 |
| 100 | friedman\_mse |  | 5 | 3 | 0.88243765 |
| 100 | friedman\_mse |  | 5 | 5 | 0.88682739 |
| 100 | friedman\_mse |  | 5 | 10 | 0.88810941 |
| 100 | friedman\_mse |  | 10 | 1 | 0.87726167 |
| 100 | friedman\_mse |  | 10 | 3 | 0.88376682 |
| 100 | friedman\_mse |  | 10 | 5 | 0.88414372 |
| 100 | friedman\_mse |  | 10 | 10 | 0.88810815 |
| 100 | poisson | 5 | 2 | 1 | 0.88373784 |
| 100 | poisson | 5 | 2 | 3 | 0.89065978 |
| 100 | poisson | 5 | 2 | 5 | 0.89254955 |
| 100 | poisson | 5 | 2 | 10 | 0.89037609 |
| 100 | poisson | 5 | 5 | 1 | 0.88377703 |
| 100 | poisson | 5 | 5 | 3 | 0.89185145 |
| 100 | poisson | 5 | 5 | 5 | 0.89206628 |
| 100 | poisson | 5 | 5 | 10 | 0.8917646 |
| 100 | poisson | 5 | 10 | 1 | 0.8829927 |
| 100 | poisson | 5 | 10 | 3 | 0.89040744 |
| 100 | poisson | 5 | 10 | 5 | 0.89208632 |
| 100 | poisson | 5 | 10 | 10 | 0.88988124 |
| 100 | poisson | 10 | 2 | 1 | 0.86256645 |
| 100 | poisson | 10 | 2 | 3 | 0.881054 |
| 100 | poisson | 10 | 2 | 5 | 0.88699794 |
| 100 | poisson | 10 | 2 | 10 | 0.88866261 |
| 100 | poisson | 10 | 5 | 1 | 0.86756512 |
| 100 | poisson | 10 | 5 | 3 | 0.88345362 |
| 100 | poisson | 10 | 5 | 5 | 0.88499697 |
| 100 | poisson | 10 | 5 | 10 | 0.88804415 |
| 100 | poisson | 10 | 10 | 1 | 0.87847602 |
| 100 | poisson | 10 | 10 | 3 | 0.88366963 |
| 100 | poisson | 10 | 10 | 5 | 0.88469586 |
| 100 | poisson | 10 | 10 | 10 | 0.88854289 |
| 100 | poisson |  | 2 | 1 | 0.85602004 |
| 100 | poisson |  | 2 | 3 | 0.88150876 |
| 100 | poisson |  | 2 | 5 | 0.88618905 |
| 100 | poisson |  | 2 | 10 | 0.88781865 |
| 100 | poisson |  | 5 | 1 | 0.8663227 |
| 100 | poisson |  | 5 | 3 | 0.88018679 |
| 100 | poisson |  | 5 | 5 | 0.88553205 |
| 100 | poisson |  | 5 | 10 | 0.8885119 |
| 100 | poisson |  | 10 | 1 | 0.87117449 |
| 100 | poisson |  | 10 | 3 | 0.88489633 |
| 100 | poisson |  | 10 | 5 | 0.88572439 |
| 100 | poisson |  | 10 | 10 | 0.88892121 |
| 150 | squared\_error | 5 | 2 | 1 | 0.88295787 |
| 150 | squared\_error | 5 | 2 | 3 | 0.89081243 |
| 150 | squared\_error | 5 | 2 | 5 | 0.8924616 |
| 150 | squared\_error | 5 | 2 | 10 | 0.89204498 |
| 150 | squared\_error | 5 | 5 | 1 | 0.88475796 |
| 150 | squared\_error | 5 | 5 | 3 | 0.89105769 |
| 150 | squared\_error | 5 | 5 | 5 | 0.89174157 |
| 150 | squared\_error | 5 | 5 | 10 | 0.89088488 |
| 150 | squared\_error | 5 | 10 | 1 | 0.88378944 |
| 150 | squared\_error | 5 | 10 | 3 | 0.89202061 |
| 150 | squared\_error | 5 | 10 | 5 | 0.89285645 |
| 150 | squared\_error | 5 | 10 | 10 | 0.89182429 |
| 150 | squared\_error | 10 | 2 | 1 | 0.86227732 |
| 150 | squared\_error | 10 | 2 | 3 | 0.88180641 |
| 150 | squared\_error | 10 | 2 | 5 | 0.88559608 |
| 150 | squared\_error | 10 | 2 | 10 | 0.8886316 |
| 150 | squared\_error | 10 | 5 | 1 | 0.87002144 |
| 150 | squared\_error | 10 | 5 | 3 | 0.88232834 |
| 150 | squared\_error | 10 | 5 | 5 | 0.88626101 |
| 150 | squared\_error | 10 | 5 | 10 | 0.88867247 |
| 150 | squared\_error | 10 | 10 | 1 | 0.87486393 |
| 150 | squared\_error | 10 | 10 | 3 | 0.8849363 |
| 150 | squared\_error | 10 | 10 | 5 | 0.88776814 |
| 150 | squared\_error | 10 | 10 | 10 | 0.88860337 |
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