**Results**

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| **All Categories** | |
| **Algorithm** | **RMSE** |
| Random Forest | 652.10 |
| XGBoost | 657.14 |
| Neural Network | 514.65 |

Parameters:

* Random Forest:

{'min\_samples\_leaf': 1,

'max\_features': 'log2',

'max\_depth': 5,

'criterion': 'friedman\_mse'}

* XGBoost:

{'min\_samples\_leaf': 1,

'max\_features': 'sqrt',

'max\_depth': 5,

'loss': 'squared\_error',

'criterion': 'squared\_error'}

* Neural Network:

{'solver': 'adam',

'activation': 'identity'}

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| **Derma Filler** | |
| **Algorithm** | **RMSE** |
| Random Forest | 83.04 |
| XGBoost | 74.91 |
| Neural Network | 97.16 |

Parameters:

* Random Forest:

{'min\_samples\_leaf': 1,

'max\_features': 'sqrt',

'max\_depth': 10,

'criterion': 'friedman\_mse'}

* XGBoost:

{'min\_samples\_leaf': 2,

'max\_features': 'sqrt',

'max\_depth': 10,

'loss': 'squared\_error',

'criterion': 'friedman\_mse'}

* Neural Network:

{'solver': 'adam',

'activation': 'relu'}

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| **Mesotherapy** | |
| **Algorithm** | **RMSE** |
| Random Forest | 2.67 |
| XGBoost | 3.07 |
| Neural Network | 2.05 |

Parameters:

* Random Forest:

{'min\_samples\_leaf': 1,

'max\_features': 'sqrt',

'max\_depth': 5,

'criterion': 'friedman\_mse'}

* XGBoost:

{'min\_samples\_leaf': 1,

'max\_features': 'sqrt',

'max\_depth': 10,

'loss': 'squared\_error',

'criterion': 'squared\_error'}

* Neural Network:

{'solver': 'adam',

'activation': 'tanh'}

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| **Needles** | |
| **Algorithm** | **RMSE** |
| Random Forest | 17.77 |
| XGBoost | 16.46 |
| Neural Network | 9.74 |

Parameters:

* Random Forest:

{'min\_samples\_leaf': 1,

'max\_features': 'sqrt',

'max\_depth': 10,

'criterion': 'poisson'}

* XGBoost:

{'min\_samples\_leaf': 2,

'max\_features': 'log2',

'max\_depth': 10,

'loss': 'huber',

'criterion': 'squared\_error'}

* Neural Network:

{'solver': 'adam',

'activation': 'identity'}

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| **Profilho** | |
| **Algorithm** | **RMSE** |
| Random Forest | 758.35 |
| XGBoost | 807.66 |
| Neural Network | 887.33 |

Parameters:

* Random Forest:

{'min\_samples\_leaf': 1,

'max\_features': 'sqrt',

'max\_depth': 10,

'criterion': 'friedman\_mse'}

* XGBoost:

{'min\_samples\_leaf': 2,

'max\_features': 'sqrt',

'max\_depth': 10,

'loss': 'squared\_error',

'criterion': 'friedman\_mse'}

* Neural Network:

{'solver': 'lbfgs',

'activation': 'relu'}

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| **Skin Booster** | |
| **Algorithm** | **RMSE** |
| Random Forest | 42.09 |
| XGBoost | 42.01 |
| Neural Network | 46.38 |

Parameters:

* Random Forest:

{'min\_samples\_leaf': 1,

'max\_features': 'log2',

'max\_depth': 5,

'criterion': 'friedman\_mse'}

* XGBoost:

{'min\_samples\_leaf': 2,

'max\_features': 'log2',

'max\_depth': 10,

'loss': 'squared\_error',

'criterion': 'squared\_error'}

* Neural Network:

{'solver': 'adam',

'activation': 'identity'}

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| **Skincare** | |
| **Algorithm** | **RMSE** |
| Random Forest | 43.77 |
| XGBoost | 56.88 |
| Neural Network | 46.23 |

Parameters:

* Random Forest:

{'min\_samples\_leaf': 1,

'max\_features': 'log2',

'max\_depth': 5,

'criterion': 'poisson'}

* XGBoost:

{'min\_samples\_leaf': 1,

'max\_features': 'sqrt',

'max\_depth': 5,

'loss': 'squared\_error',

'criterion': 'squared\_error'}

* Neural Network:

{'solver': 'adam',

'activation': 'identity'}