

MG-GY 8411 Data Engineering HW3

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Summary Report:

Below are the mean absolute error (MAE) values for the different currency pairs. And their classification.

| Currency Pair | MAE | Classification |
|---------------|--------|------------------|
| EURDKK | 0.0001 | FORECASTABLE |
| SGDCHF | 0.0001 | FORECASTABLE |
| CADSGD | 0.0001 | FORECASTABLE |
| USDSGD | 0.0001 | FORECASTABLE |
| USDHKD | 0.0001 | FORECASTABLE |
| GBPUSD | 0.0002 | FORECASTABLE |
| EURAUD | 0.0002 | FORECASTABLE |
| GBPNZD | 0.0003 | FORECASTABLE |
| NZDCHF | 0.0001 | FORECASTABLE |
| EURGBP | 0.0002 | FORECASTABLE |
| CADCHF | 0.0016 | FORECASTABLE |
| NZDCAD | 0.0002 | FORECASTABLE |
| AUDSGD | 0.0002 | FORECASTABLE |
| AUDCAD | 0.0001 | FORECASTABLE |
| EURUSD | 0.0001 | FORECASTABLE |
| GBPAUD | 0.0003 | FORECASTABLE |
| EURCAD | 0.0002 | FORECASTABLE |
| GBPCAD | 0.0003 | FORECASTABLE |
| USDCHF | 0.0001 | FORECASTABLE |
| --- | | |
| AUDNZD | 0.1048 | NON FORECASTABLE |
| USDZAR | 0.1007 | NON FORECASTABLE |
| EURTRY | 0.0614 | NON FORECASTABLE |
| NZDSGD | 0.093 | NON FORECASTABLE |
| NZDJPY | 0.0628 | NON FORECASTABLE |
| USDTHB | 0.0464 | NON FORECASTABLE |
| CHFZAR | 0.0945 | NON FORECASTABLE |
| GBPHKD | 0.0106 | NON FORECASTABLE |
| GBPJPY | 0.1034 | NON FORECASTABLE |
| AUDJPY | 0.085 | NON FORECASTABLE |
| EURCZK | 0.012 | NON FORECASTABLE |
| AUDCHF | 0.0132 | NON FORECASTABLE |

| | | |
|--------|--------|------------------|
| SGDJPY | 0.0125 | NON FORECASTABLE |
| CHFJPY | 0.0913 | NON FORECASTABLE |
| USDSEK | 0.0937 | NON FORECASTABLE |
| HKDJPY | 0.0269 | NON FORECASTABLE |
| USDNOK | 0.0142 | NON FORECASTABLE |
| EURHKD | 0.0579 | NON FORECASTABLE |
| USDHUF | 0.0816 | NON FORECASTABLE |
| EURJPY | 0.0875 | NON FORECASTABLE |
| EURHUF | 0.0652 | NON FORECASTABLE |
| EURZAR | 0.0109 | NON FORECASTABLE |
| USDJPY | 0.0392 | NON FORECASTABLE |
| CADJPY | 0.0875 | NON FORECASTABLE |
| CADHKD | 0.0876 | NON FORECASTABLE |

| | | |
|--------|--------|--------------|
| | | PARTIALLY |
| USDMXN | 0.0087 | FORECASTABLE |
| | | PARTIALLY |
| USDTRY | 0.0081 | FORECASTABLE |
| | | PARTIALLY |
| CHFHKD | 0.0041 | FORECASTABLE |
| | | PARTIALLY |
| EURSEK | 0.0076 | FORECASTABLE |
| | | PARTIALLY |
| USDDKK | 0.0074 | FORECASTABLE |
| | | PARTIALLY |
| ZARJPY | 0.007 | FORECASTABLE |
| | | PARTIALLY |
| GBPPLN | 0.0035 | FORECASTABLE |
| | | PARTIALLY |
| USDBRL | 0.0045 | FORECASTABLE |
| | | PARTIALLY |
| EURNOK | 0.0052 | FORECASTABLE |
| | | PARTIALLY |
| USDPLN | 0.0061 | FORECASTABLE |
| | | PARTIALLY |
| USDCNY | 0.0045 | FORECASTABLE |
| | | PARTIALLY |
| NZDHKD | 0.0055 | FORECASTABLE |
| | | PARTIALLY |
| AUDHKD | 0.005 | FORECASTABLE |
| | | PARTIALLY |
| EURCHF | 0.0051 | FORECASTABLE |

All error values were obtained using the PyCaret library. A consistent 70-30 split for training and testing was applied across all currency pair datasets. The various models employed are detailed in the attached Jupyter notebooks.