# User Manual for Configuration Performance Learning Tool

This document provides instructions on how to install, prepare, and run the machine learning models used for configuration performance prediction.

## 1. Setup

#### Clone the Repository

```
git clone https://github.com/sree19-msc/ConfigurationPerformanceLearning.git
cd ConfigurationPerformanceLearning
```

#### Install Dependencies

Use the provided `requirements.txt`:

```
pip install -r requirements.txt
```

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## 2. Run Models

Navigate to the `code/` directory and run the scripts.

```
python code/script_name.py
```

Example :

##### XGBoost

```
python code/xgb_regressor.py
```

Each script:

- Loads datasets
- Trains the model
- Prints MAPE, MAE, RMSE, Time taken
- Saves results to `output/` folder as `.csv`

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## 3. Output Format

The results are saved to a CSV file in the `output/` folder:

```
System, Dataset, MAPE, MAE, RMSE
```

Example:

```
batlik, corona.csv, 0.1234, 5.6789, 6.5432
```

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## Notes

- Some models apply feature engineering and hyperparameter tuning automatically.
- No changes are needed unless you want to customize model settings or add datasets.