OneModel Academy

One AI

Cross Validation

Machine Learning Models

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Topics Covered

- What cross validation is
- Why cross validation is important
- Cross validation and model evaluation
- How cross validation works in One AI

Learning Outcomes

- You will understand the significance of cross validation in assessing the performance of predictive models on new, unseen data.
- You will recognize the critical role of cross-validation in preventing overfitting
- You will appreciate how cross-validation provides a more accurate estimate of a model's performance by simulating training and testing on different subsets of the dataset.
- You will understand how cross validation works in One AI with your machine learning models

Cross Validation Overview

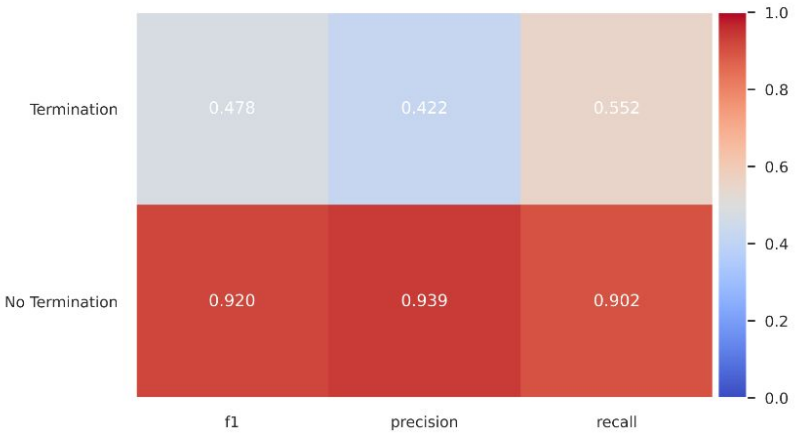
Overview

- **Cross Validation** is a technique used to assess the performance of a predictive model on new, unseen data.
- Process:
  - Divide the model dataset into multiple folds - many training folds; 1 validation fold
  - The model is trained on the training folds
  - Performance is assessed based on the validation fold
  - This process is repeated many times with different combinations
  - Performance results from each validation step are averaged

Importance of Cross Validation

Importance & Model Evaluation

- Prevent overfitting
    - **Overfitting:** when a model gives accurate predictions for training data but not for new, unseen data
- Maximum utilization of available data
- Evaluation of model performance



Cross Validation in One AI

Cross Validation in OneAI

- Cross Validation is automatically handled by OneAI
- 5 folds are used by default
- Changing the number of folds is possible in the Advanced Configuration settings

Thanks for watching!