

# One AI Results Summary

## ML Models



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One AI Client Enablement



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# Topics Covered

- An overview of the Results Summary
- Navigation to the Results Summary in One Model
- Key takeaways from each section of the report:
  - Estimation details
  - Feature importance
  - Classification or regression report
  - Messages & warnings
- Deploying or ignoring models

# Learning Outcomes

You will:

- Recognize the importance of the Results Summary for promoting transparency & understanding model configuration & performance
- Gain the ability to interpret & modify the model's configuration based on insights from the estimation details section
- Know how to evaluate feature importance using techniques like feature ranking, SHAP visuals, & VIF scores
- Use the regression & classification performance reports to make informed decisions about model deployment or further refinement



# **Overview & Significance**



# Overview & Significance

- The **results summary report** provides a comprehensive overview of the configuration, feature importance, & performance of models
  - Used to make informed decisions regarding manual overrides & advanced configuration to the model settings
  - Paired with the EDA report, helps inform decisions about model deployment
- Not typically available in other predictive analytics tools but essential for:
  - Model interpretability
  - Knowledge sharing & collaboration
  - Compliance & ethics



# Navigation in One Model



# Navigation

- A unique results summary is automatically generated for each model iteration in the following statuses:
  - Pending, Ignored, Deployed, Deployed & Persisted
- Navigation: One AI tab > Runs > Status Label

Flight Risk Model - Test

Created By  
Hayley Bresina

Type  
Classification

Status  
Pending

Next Scheduled Run

Edit Schedule Runs Run Delete

Status	Run Initiated	Result Received
Pending	2024/02/09 3:03:25 PM by Adrian Barrera	2024/02/09 3:12:07 PM

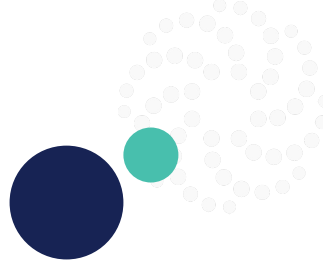
- Must view the EDA report before the entire results summary will display



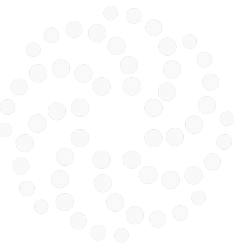
## **Section Takeaways of the Results Summary**





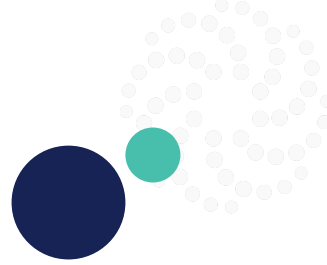


# Estimation Details

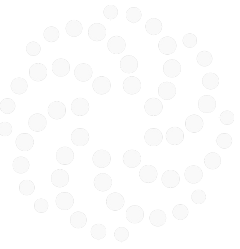


# Estimation Details

- A comprehensive overview of how the model was configured
  - Estimator configuration
  - Feature selection
  - Upsampling
  - Probability calibration
  - Prediction details
- Anything in this section can be manually configured in the model settings or One AI query builder

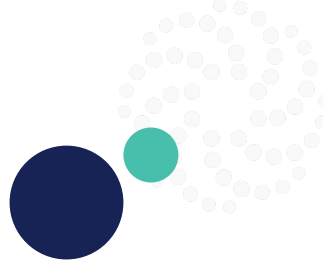


# Feature Analysis

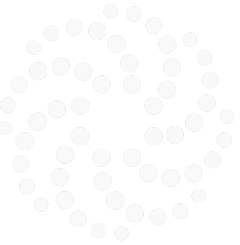


# Feature Analysis

- Provides valuable insights into the importance & impact of features on the machine learning model's performance
- Includes various tabs providing different perspectives on feature analysis:
  - Feature importance / Coefficients
  - SHAP Beeswarm chart
  - SHAP average bar chart
  - Variance Inflation Factor scores (VIF)



# **Classification or Regression Report**



# Classification or Regression Report

- Provides a comprehensive evaluation of the machine learning model's performance
- A wide range of metrics & visualizations are available to assess the model's accuracy, precision, recall, & other performance indicators
  - Available metrics & visualizations depend on whether a classification or regression model was run
  - For a detailed explanation of these visualizations, refer to section 3 of the Classification & Regression Model Performance modules



# Messages & Warnings



# Messages & Warnings

- Displays information about the models created during the model selection process as well as setting overrides applied during the configuration
  - Which algorithms were tested and scored for model selection?
  - For each algorithm, was it run by default settings, a heuristic, or a user override?
  - Were there any setting combinations rejected because the data fed to the model did not meet certain criteria?
  - Example:

For model selection AdaBoostClassifier was used as a default setting. It was run with the following hyperparameter plane:

```
n_estimators: {5}  
learning_rate: {1.0}  
algorithm: {'SAMME.R'}  
estimator: {None}  
user_override: {False}
```



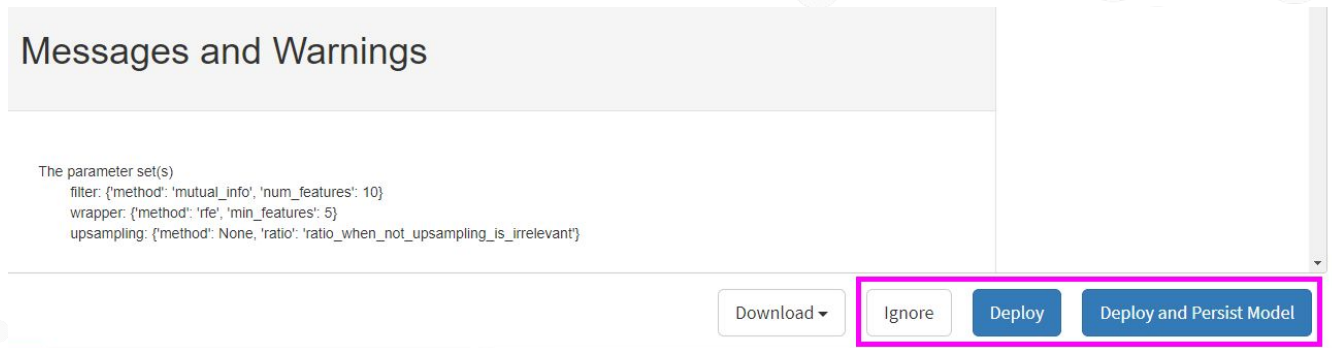


# Deploying or Ignoring Models



# Deploying or Ignoring ML Models

- Models are deployed or ignored from the bottom of the results summary



- Learn more about these actions in the 'Model Deployment' module!
- Several files for analyzing model results outside of One Model can be downloaded here



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# Thanks for watching!

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