```
[2]  ✓ 4m 57.5s                                                    Python
```

```
/tmp/ipykernel_522656/1254506153.py:30: DeprecationWarning: `ensemble_size` has been deprecated, please use `ensemble_kwargs = {'ensemble_size': 1}`. Inserting `ensemble_size` into `e
  automl = autosklearn.classification.AutoSklearnClassifier(
Models Trained:
 {8: {'model_id': 8, 'rank': 1, 'cost': 0.14166666666666672, 'ensemble_weight': 1.0, 'data_preprocessor': <autosklearn.pipeline.components.data_preprocessing.DataPreprocessorChoice ob
    gamma=0.028106748647672205, max_iter=-1.0, random_state=42, shrinking=False,
    tol=2.0706197108771777e-05)}}

Best Model Selected:
 (1.0, SimpleClassificationPipeline({'balancing:strategy': 'none', 'classifier:__choice__': 'libsvm_svc', 'data_preprocessor:__choice__': 'feature_type', 'feature_preprocessor:__choic
dataset_properties={
  'task': 2,
  'sparse': False,
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  'multiclass': True,
  'target_type': 'classification',
  'signed': False}))

Best Model Validation Accuracy: 0.8440
```

```
# Comparison the different models tried using auto-sklearn, by default it uses 10-fold cross-validation and it always returns the best model, so we can use the cv_results_ attribut
automl.cv_results_
```

```
[3]  ✓ 0.0s                                                        Python
```

```
  'classifier:libsvm_svc:tol': 2.0706197108771777e-05,
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```

```
print(f"Best model validation accuracy: {accuracy:.4f}")
```

[2] ✓ 4m 57.5s Python

```
le_size` into `ensemble_kwargs` for now. `ensemble_size` will be removed in auto-sklearn 0.16.

ocessorChoice object at 0x704def2de430>, 'balancing': Balancing(random_state=42), 'feature_preprocessor': <autosklearn.pipeline.components.feature_preprocessing.FeaturePreprocessorChoi



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```

```
# Comparison the different models tried using auto-sklearn, by default it uses 10-fold cross-validation and it always returns the best model, so we can use the cv_results_ attribut
automl.cv_results_
```

[3] ✓ 0.0s Python

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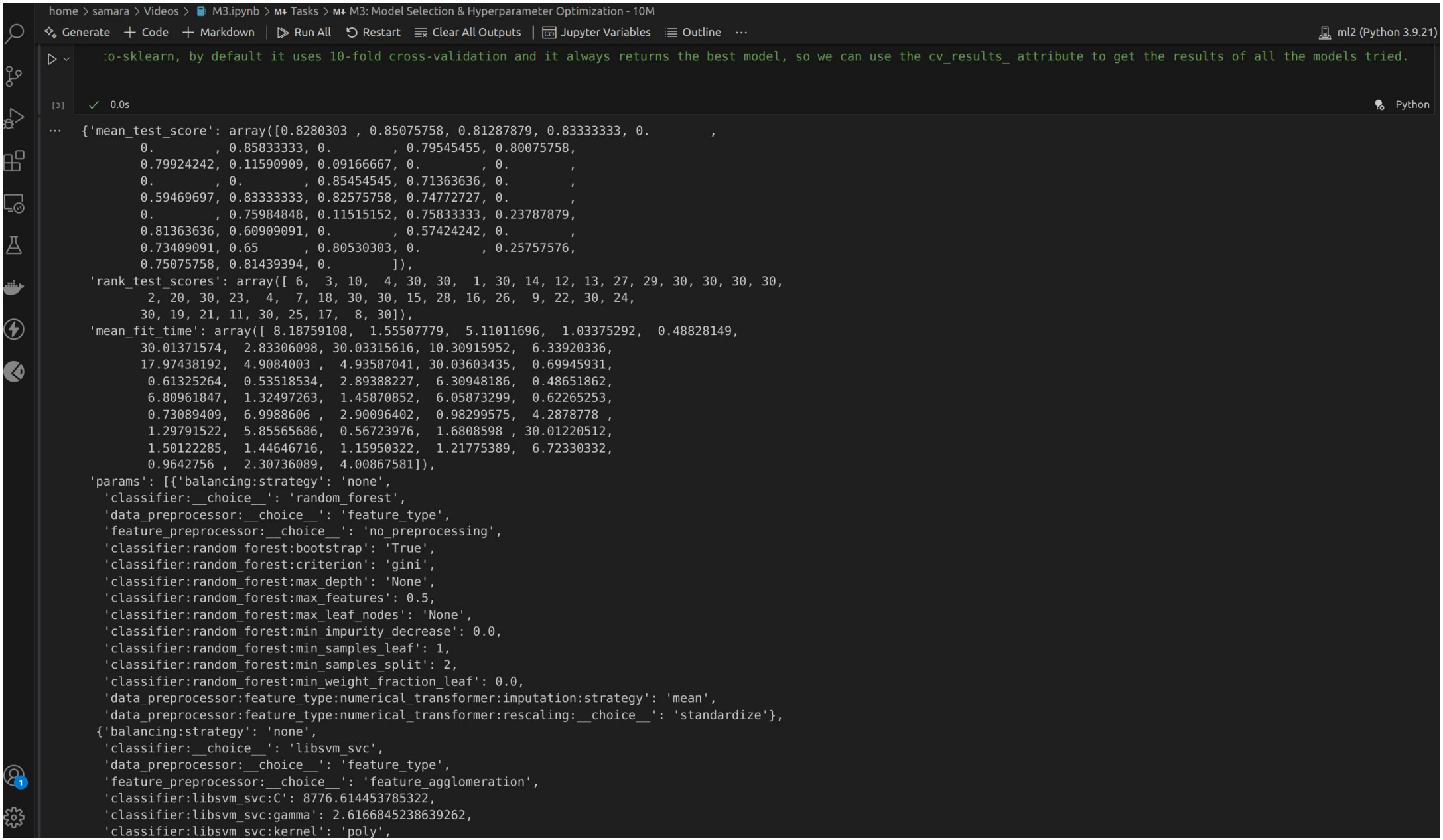
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ml2 (Python 3.9.21)
:o-sklearn, by default it uses 10-fold cross-validation and it always returns the best model, so we can use the cv_results_ attribute to get the results of all the models tried.
[3]
0.0s
Python
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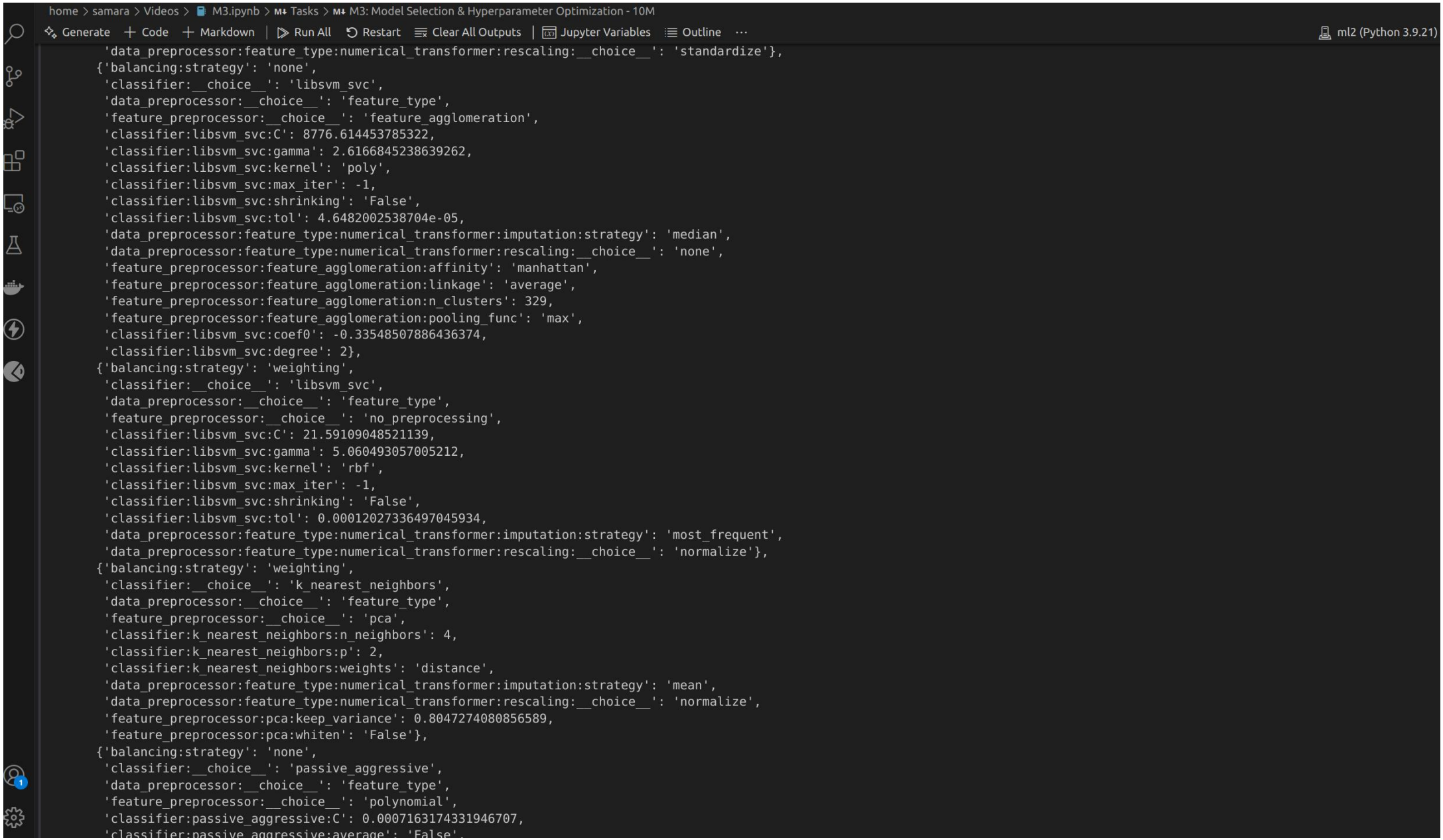
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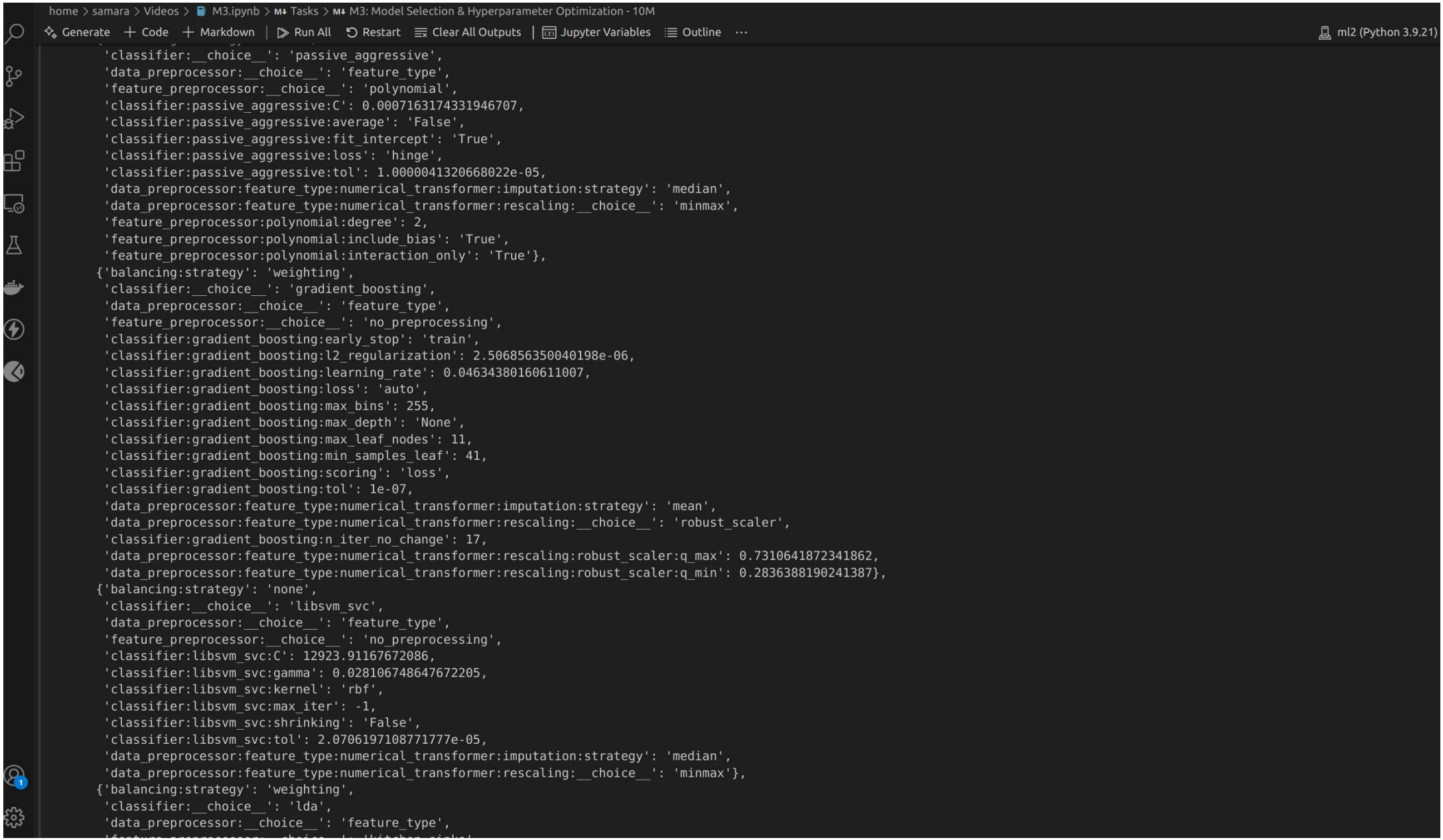
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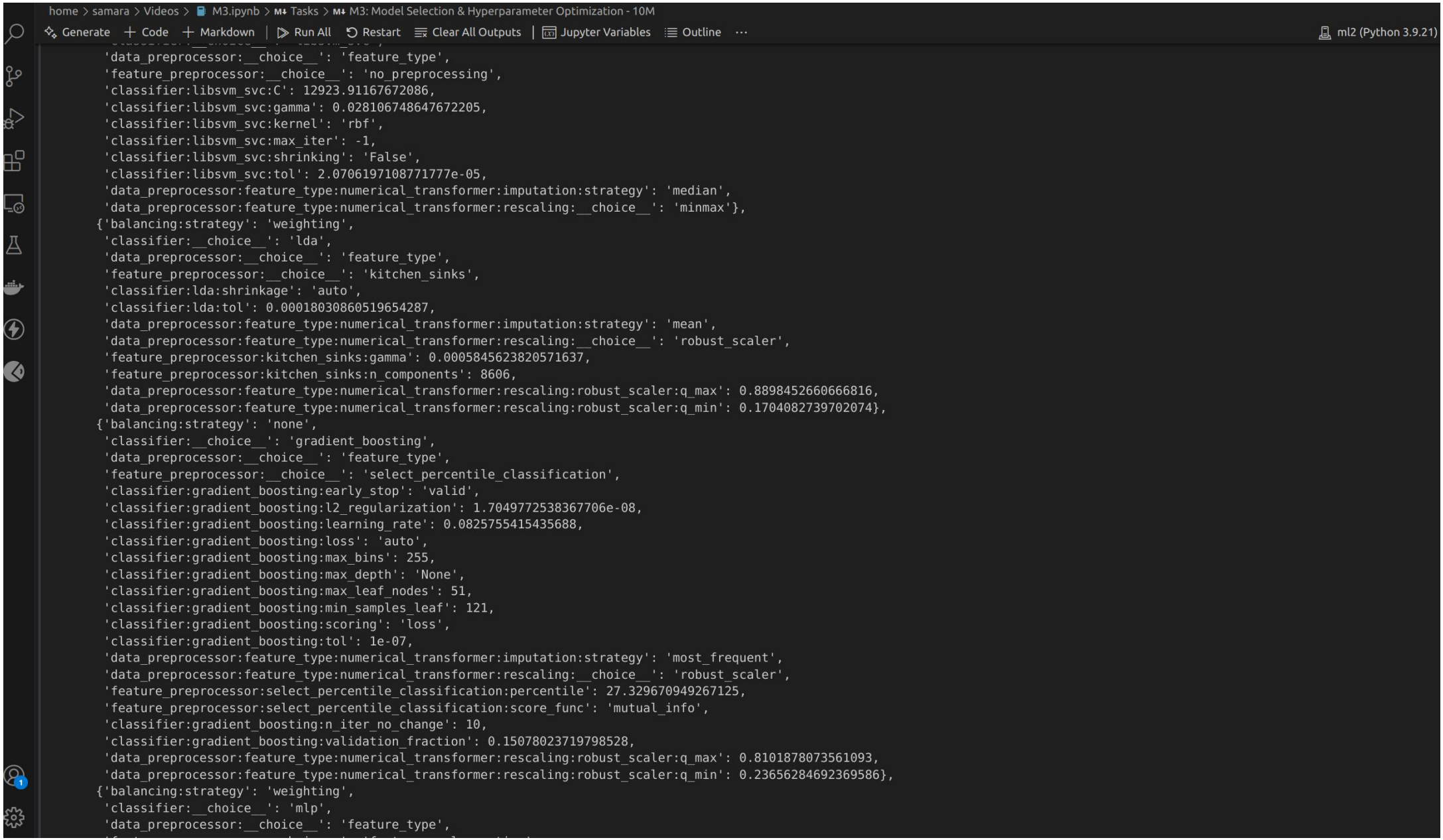
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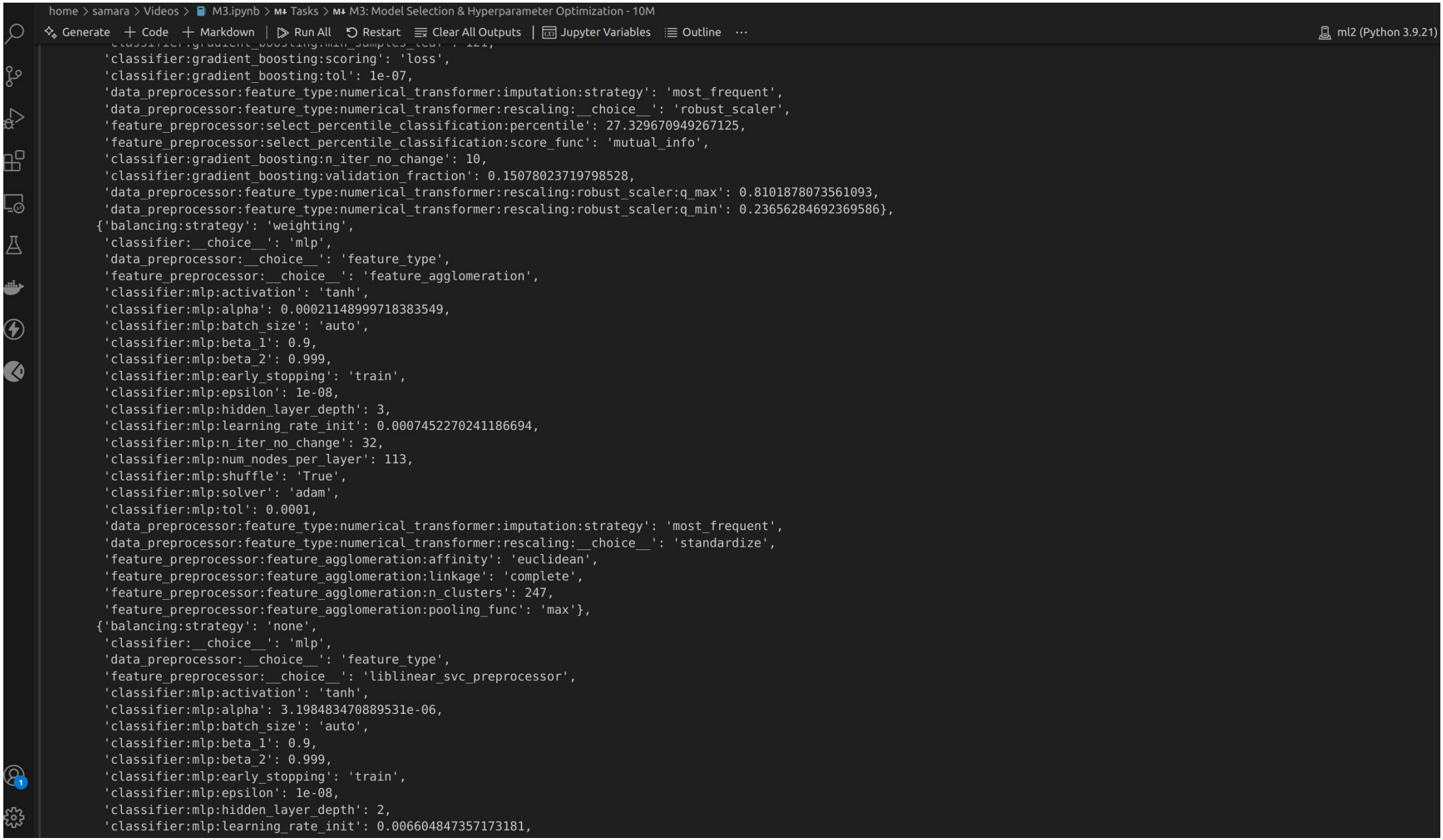
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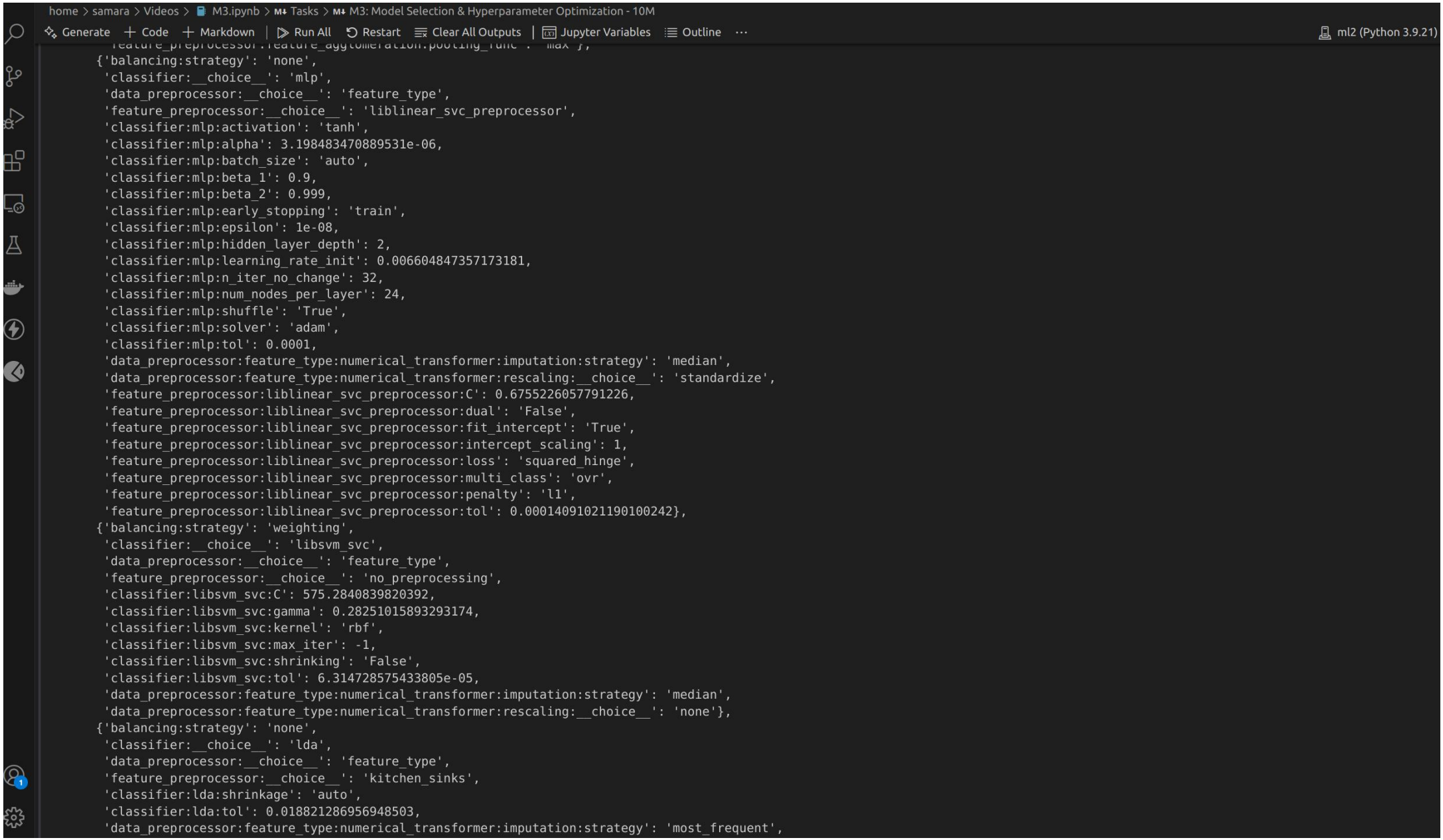
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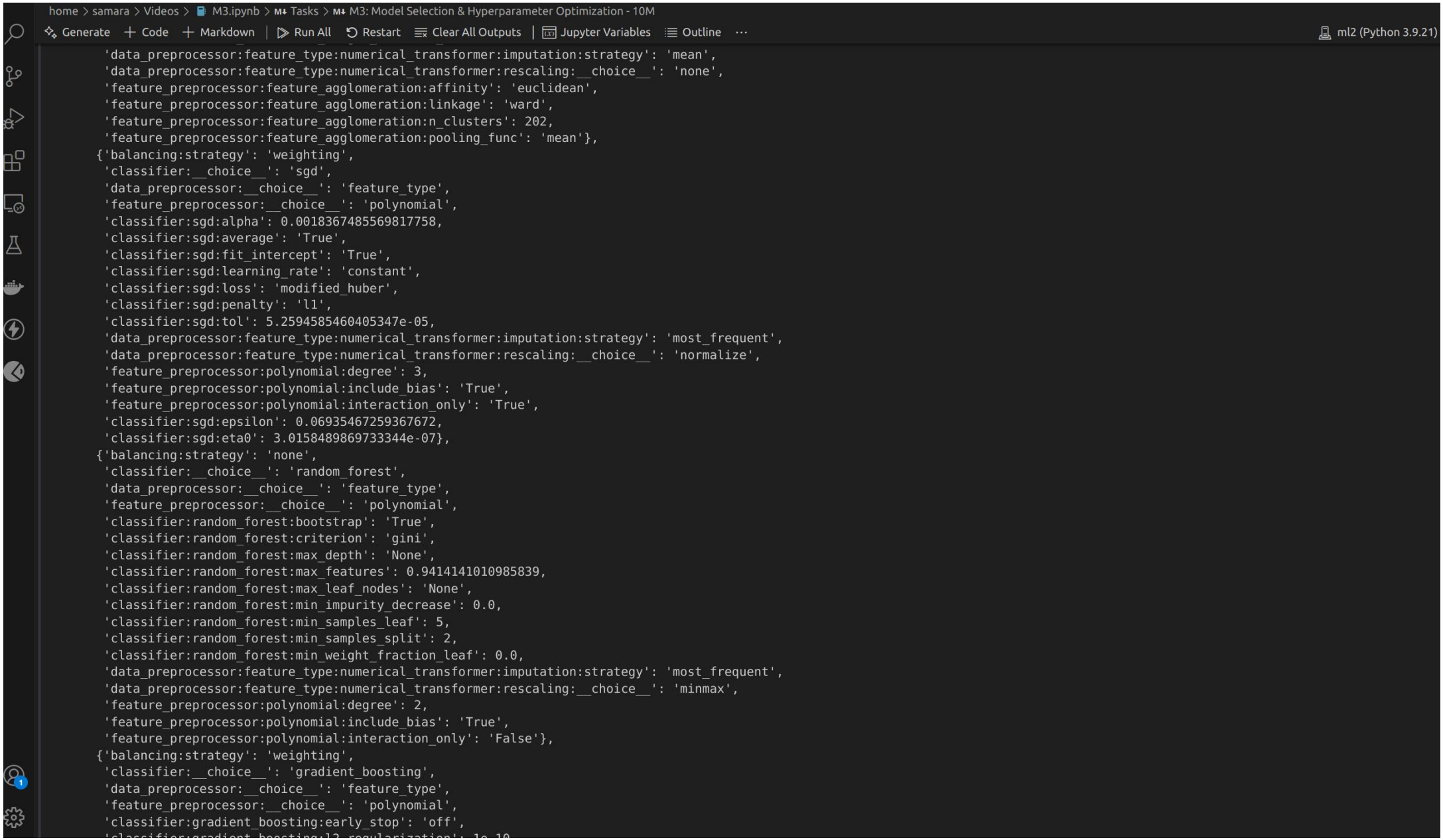
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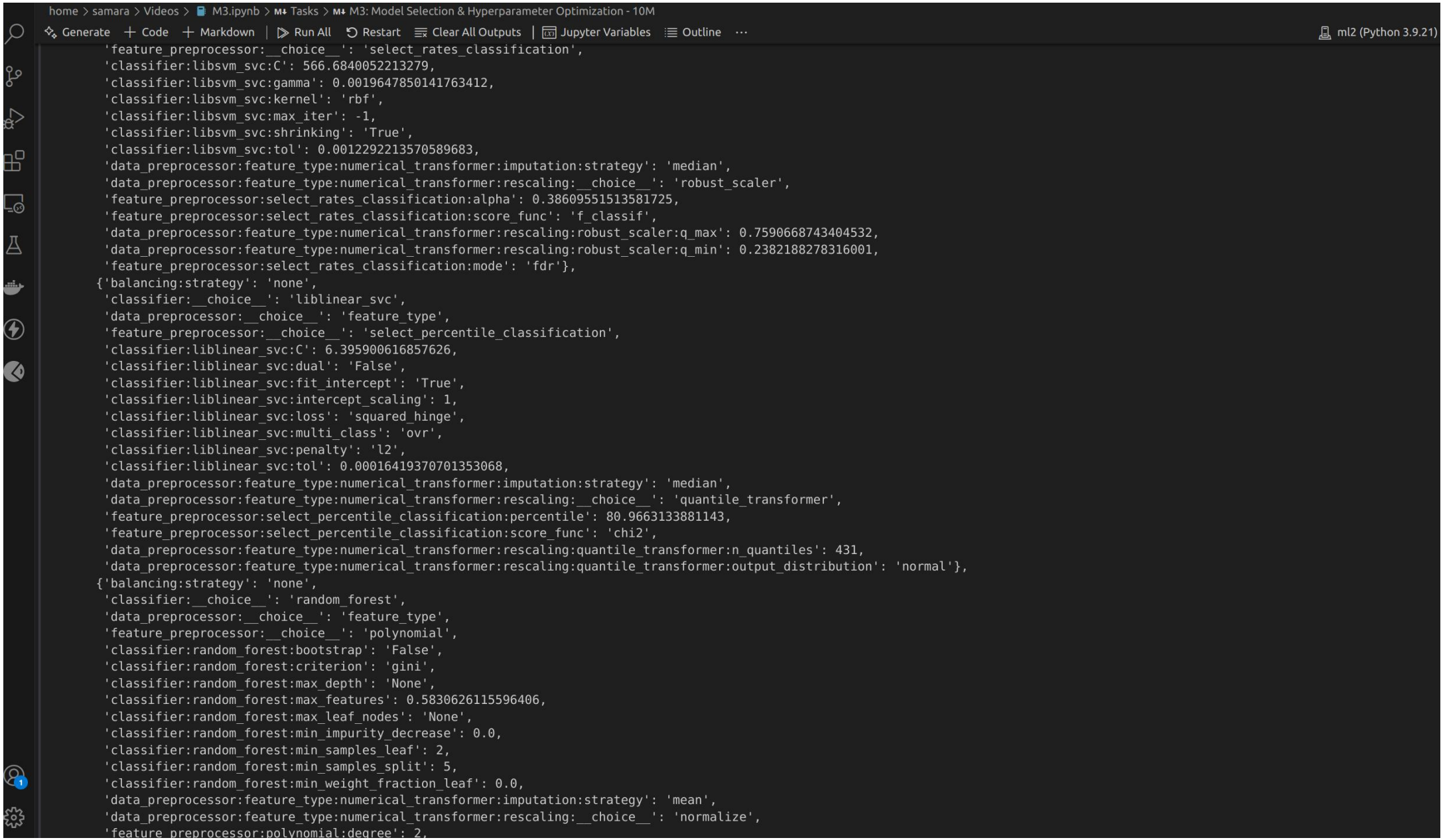
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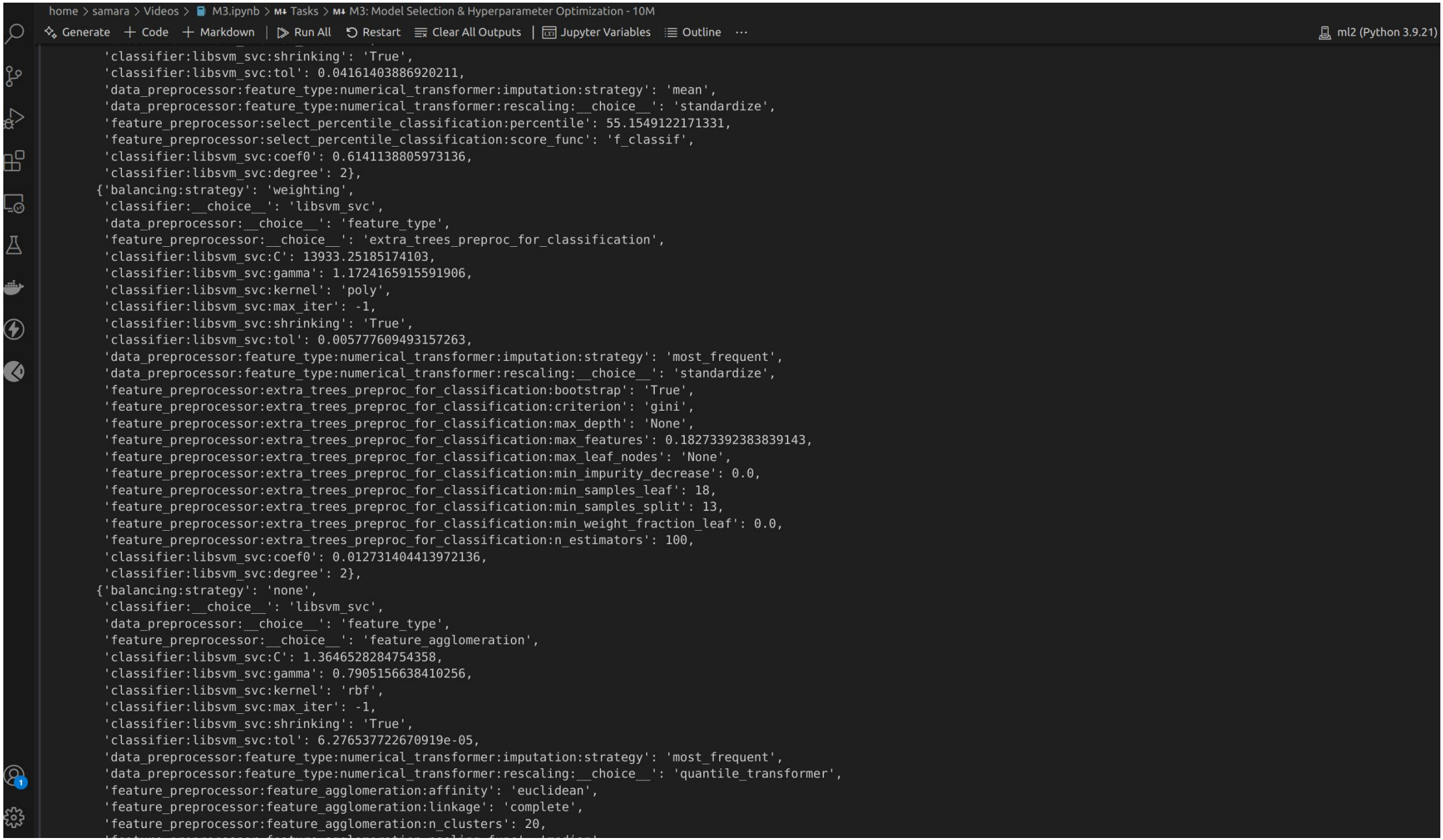
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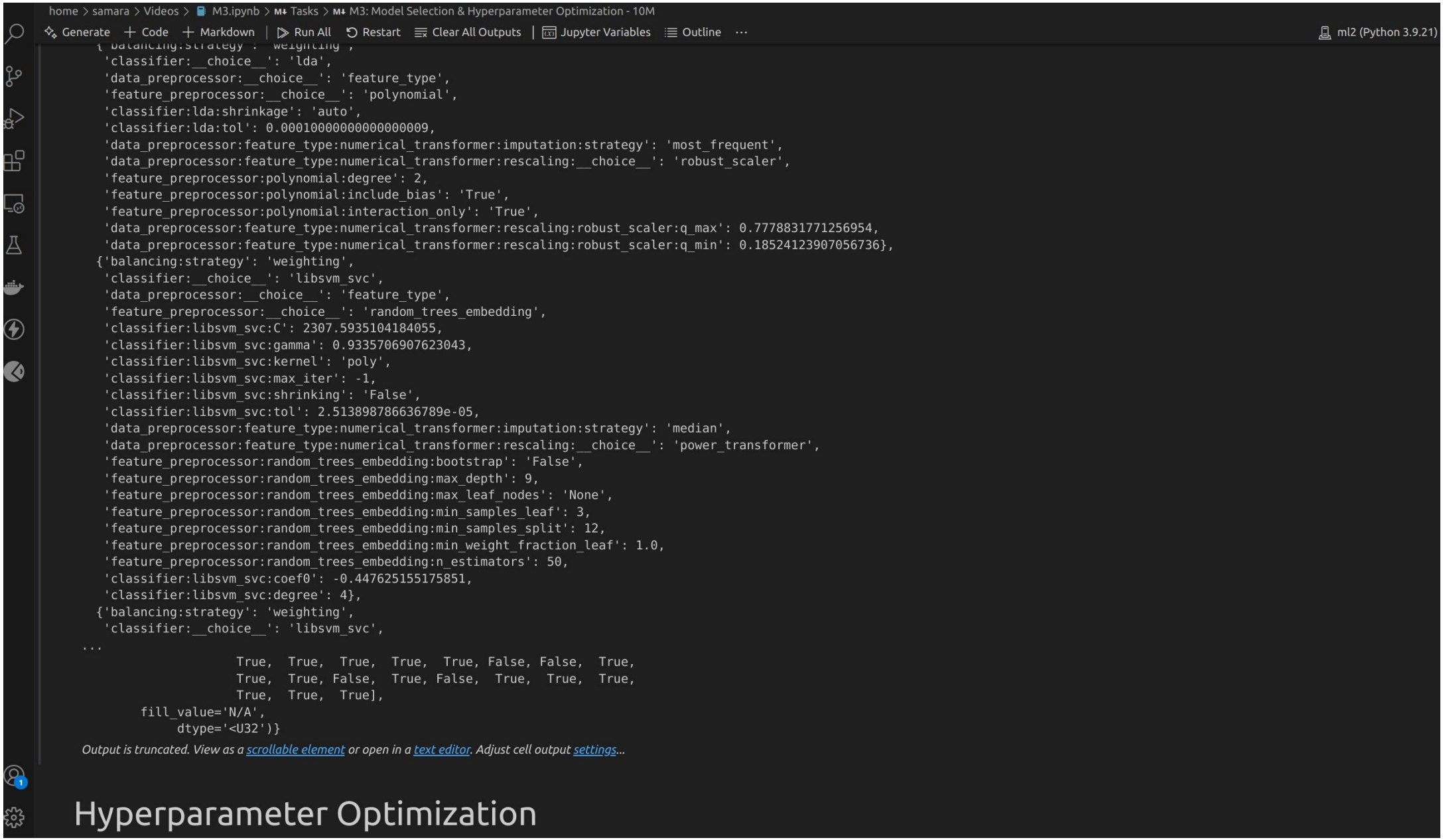
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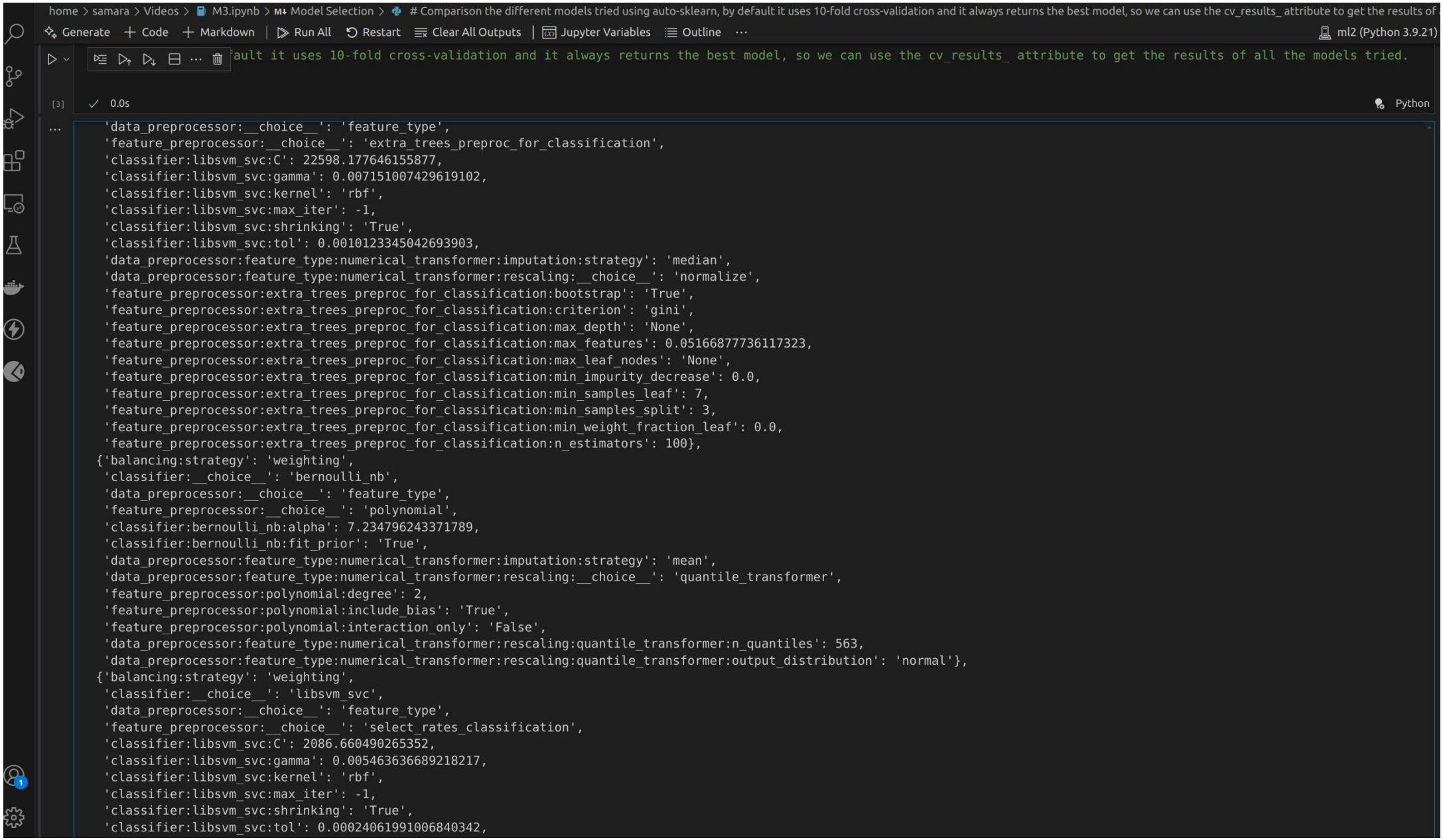
Hyperparameter Optimization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fault it uses 10-fold cross-validation and it always returns the best model, so we can use the cv_results_ attribute to get the results of all the models tried.
[3]
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