

Screen Shots of the outputs:

AST:

```
Calculating MAP and MRR for issue 32/36: 'Diff tool should differentiate between null values'
Calculating MAP and MRR for issue 33/36: 'HollowObjectTypeDataElements utilities for splitting'
Calculating MAP and MRR for issue 34/36: 'Support byte[] in @HollowPrimaryKey for ObjectInternPool'
Calculating MAP and MRR for issue 35/36: 'Add index and hash JMH benchmarks'
Calculating MAP and MRR for issue 36/36: 'Ergonomic HollowObjectDelegateCachedImpls refer to object ordinal'
Mean Average Precision (MAP): 0.3673194529360993
Mean Reciprocal Rank (MRR): 0.1259302903743946
Evaluating issue 1/36: 'Replace Jetty server with JDK httpserver'
Number of predicted files matching actual files changed: 0/20
Evaluating issue 2/36: 'PrimaryKeyIndex doesn't index large changes efficiently'
Number of predicted files matching actual files changed: 1/1
Evaluating issue 3/36: 'HollowIncrementalProducer sometimes does not update/remove records'
Number of predicted files matching actual files changed: 1/4
```

CFG:

```
Calculating MAP and MRR for issue 32/36: 'Support byte[] in @HollowPrimaryKey for ObjectInternPool in HollowHistoryUI'
Calculating MAP and MRR for issue 33/36: 'ArrayOutOfBoundsException: -1 when searching by Hash Index'
Calculating MAP and MRR for issue 34/36: 'NPE for fields with types: Collection, Iterable etc'
Calculating MAP and MRR for issue 35/36: 'Transient variables are not ignored'
Calculating MAP and MRR for issue 36/36: 'Replace Jetty server with JDK httpserver'
Mean Average Precision (MAP): 0.48618924206837
Mean Reciprocal Rank (MRR): 0.20149911816578484
Evaluating issue 1/36: 'Add ability to use a hash index on nullable fields'
Number of predicted files matching actual files changed: 1/3
Evaluating issue 2/36: 'Consumer delta application supports re-sharding for Object type'
Number of predicted files matching actual files changed: 6/19
Evaluating issue 3/36: 'Added support of compact Strings'
```

DFG:

```
Calculating MAP and MRR for issue 31/36: 'Data Model with inheritance'
Calculating MAP and MRR for issue 32/36: 'AbstractHollowOrdinalIterable's iterator() method'
Calculating MAP and MRR for issue 33/36: 'HollowWriteStateEnginePrimaryKeyHasher is not hashing correctly'
Calculating MAP and MRR for issue 34/36: 'Allow passing a custom Writer to HollowRecordString'
Calculating MAP and MRR for issue 35/36: 'Consumer delta application supports re-sharding for Object type'
Calculating MAP and MRR for issue 36/36: 'Data Corruption: overflow when calculating snapshots'
Mean Average Precision (MAP): 0.276461437699295
Mean Reciprocal Rank (MRR): 0.10857847745554543
Evaluating issue 1/36: 'Enhanced HollowHistoryTypeKeyIndex with Optimized Mappings and Memoization'
Number of predicted files matching actual files changed: 1/13
Evaluating issue 2/36: '<Type>CachedImpl duplicates get<Type>Ordinal calls for shortcuts'
Number of predicted files matching actual files changed: 0/1
Evaluating issue 3/36: 'The new explorer-ui will break if there are more than 1 cookie'
```

AST+CFG:

```
Calculating MAP and MRR for issue 32/36: '<Type>CachedImpl duplicates get<Type>Ordinal calls for shortcuts'
Calculating MAP and MRR for issue 33/36: 'Consumer delta application supports re-sharding for Object type'
Calculating MAP and MRR for issue 34/36: 'PrimaryKeyIndex doesn't index large changes efficiently'
Calculating MAP and MRR for issue 35/36: 'SchemaNotFoundException when using UniqueKeyIndex'
Calculating MAP and MRR for issue 36/36: 'HollowObjectMapper fails with unhelpful NPE if writing a Map with a null value'
Mean Average Precision (MAP): 0.5722779635823114
Mean Reciprocal Rank (MRR): 0.19444444444444445
Evaluating issue 1/36: 'The new explorer-ui will break if there are more than 1 cookie'
Number of predicted files matching actual files changed: 0/0
Evaluating issue 2/36: 'HollowWriteStateEnginePrimaryKeyHasher is not hashing correctly'
Number of predicted files matching actual files changed: 0/1
Evaluating issue 3/36: 'Unexpected/incorrect callback order for HollowConsumer.RefreshListener during init'
```

AST+DFG:

```
Calculating MAP and MRR for issue 32/36: 'Replace Jetty server with JDK httpserver'
Calculating MAP and MRR for issue 33/36: 'Enhanced HollowHistoryTypeKeyIndex with Optimized Mappings and Memoization'
Calculating MAP and MRR for issue 34/36: 'Data Model with inheritance'
Calculating MAP and MRR for issue 35/36: 'ArrayOutOfBoundsException: -1 when searching by Hash Index'
Calculating MAP and MRR for issue 36/36: 'Diff tool should differentiate between null values'
Mean Average Precision (MAP): 0.05751359047325872
Mean Reciprocal Rank (MRR): 0.09415306915306916
Evaluating issue 1/36: 'Ergonomic HollowObjectDelegateCachedImpls refer to object ordinal'
Number of predicted files matching actual files changed: 0/1
Evaluating issue 2/36: 'HollowIncrementalProducer sometimes does not update/remove records'
Number of predicted files matching actual files changed: 0/3
Evaluating issue 3/36: 'It's not possible to start a consumer application when blob store disabled'
Number of predicted files matching actual files changed: 2/12
```

CFG+DFG:

```

Calculating MAP and MRR for issue 31/36: 'PerformanceAPI directory not matching package'
Calculating MAP and MRR for issue 32/36: 'Allow passing a custom Writer to HollowRecordStrin
Calculating MAP and MRR for issue 33/36: 'Data Corruption: overflow when calculating snapsho
Calculating MAP and MRR for issue 34/36: 'NPE for fields with types: Collection, Iterable et
Calculating MAP and MRR for issue 35/36: '`destinationPath` field is not set via `HollowAPIQ
Calculating MAP and MRR for issue 36/36: 'Data Corruption: overflow when retrieving array st
Mean Average Precision (MAP): 0.20920497873013258
Mean Reciprocal Rank (MRR): 0.09137333627293417
Evaluating issue 1/36: 'Transient variables are not ignored'
Number of predicted files matching actual files changed: 1/2
Evaluating issue 2/36: 'Thread leak from StaleHollowReferenceDetector in tests'
Number of predicted files matching actual files changed: 0/2
Evaluating issue 3/36: 'HollowAnnouncementWatcher should implement an interface'

```

AST+CFG+DFG:

```

Calculating MAP and MRR for issue 34/36: 'Data Corruption: overflow when retrieving array start and end index
Calculating MAP and MRR for issue 35/36: 'Add index and hash JMH benchmarks'
Calculating MAP and MRR for issue 36/36: 'SchemaNotFoundException when using UniqueKeyIndex '
Mean Average Precision (MAP): 0.23150209713270328
Mean Reciprocal Rank (MRR): 0.12797988950048964
Evaluating issue 1/36: 'HollowAnnouncementWatcher should implement an interface'
Number of predicted files matching actual files changed: 0/1
Evaluating issue 2/36: 'PerformanceAPI directory not matching package'
Number of predicted files matching actual files changed: 0/3
Evaluating issue 3/36: 'Compilation of generated files fails if data model object has `Byte`'

```

OverFitting Model:

```

Iteration 830/872: Loss 0.0073
Iteration 840/872: Loss 0.0074
Iteration 850/872: Loss 0.0048
Iteration 860/872: Loss 0.1123
Iteration 870/872: Loss 0.0075
Evaluating model...
Accuracy: 0.9949784791965567
PS C:\Users\Rajeev thota\OneDrive\Desktop\td>

```