



# **RepoCop**

## **Automatic Issue Assignment**

# The Reality:

Filters ▾

Labels 205

Milestones 10

New issue

1,859 Open

44,600 Closed

Author ▾ Label ▾ Projects ▾ Milestones ▾ Assignee ▾ Sort ▾

🔍

[Compatibility Version] Provide option for a feature to opt out of emulated version

sig/api-machinery

triage/accepted

2

#129571 opened 8 hours ago by stuanfoundation

🔍

Virtual Service Description Rendering of Maps

kind/bug

needs-sig

needs-triage

2

#129569 opened 11 hours ago by Frigorn2024

🔍

vishvananda Netlink breaking changes in 1.2.1

priority/important-soon

sig/network

triage/accepted

7

#129562 opened 19 hours ago by aqjes

🔍

Packaging - kubernetess >=1.30 - yum autoremove proposing to uninstall kubelet

needs-sig

needs-triage

2

#129558 opened yesterday by grunlab

🔍

Container remains ready causing Pod and Endpointslice to Report False Ready State for the entire terminationGracePeriod

kind/bug

needs-sig

needs-triage

6

#129552 opened 2 days ago by ndutla

🔍

FUSE mounts in emptyDir volumes cannot be cleaned

kind/bug

needs-triage

sig/storage

2

#129550 opened 2 days ago by alemonrak

🔍

EvictionPressureTransitionPeriod will silently default 0s to 5m

kind/documentation

priority/backlog

sig/node

triage/accepted

1

2

#129548 opened 2 days ago by kannon92

🔍

[FGInPlacePodVerticalScaling] Inconsistency between scheduler & kubelet admission logic

priority/important-soon

3

#129532 opened 3 days ago by taliclar

🔍

[FGInPlacePodVerticalScaling] avoid checking the configuration of resource managers to learn their expected behavior

1

3

#129531 opened 3 days ago by ffromani

🔍

Failure cluster [56c9e65f...]: Kubelet Port forwarding with a pod being removed should stop port-forwarding

kind/failing-test

kind/flake

needs-triage

priority/important-soon

sig/di

3

#129527 opened 3 days ago by pohly

🔍

DRA: Increase CEL expression complexity limit in resourceClaimTemplate

kind/bug

needs-sig

needs-triage

4

#129523 opened 3 days ago by tj-johannes-lee

🔍

Report event or record error/info log when drop podUpdates message

kind/feature

needs-triage

sig/node

1

5

#129518 opened 3 days ago by zanzan-wang

🔍

Pod GC should sort by finish Timestamp

kind/feature

needs-sig

needs-triage

1

7

#129513 opened 3 days ago by AllenXu93

Open-source and large-scale GitHub repositories often suffer from a backlog of unassigned issues. Contributors must manually search for issues they can resolve, a time-consuming and inefficient process.

# The Problem:

82.6 %

Of the issues are unassigned

93 days

Is the average time to close an Issue

# The Problem:

**1/3**

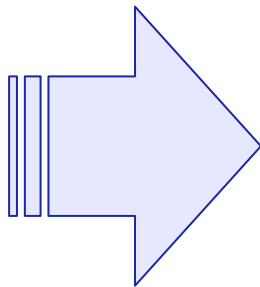
Of the issue lifetime time is  
spent unassigned

# The Dataset - GitHub Archive Data:



# Data Preparation:

id	long
repo_id	long
title	string
body	string
labels	list(string)
Assignee	list(string)
created_on	date
closed_on	date
updated_on	date



repo_id	long
title	string
body	string

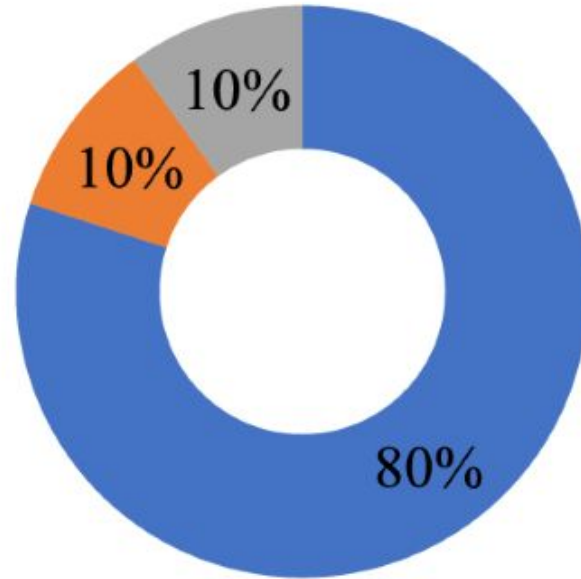
Deleted instance with:

- Missing or empty values
- fewer than 50 assignee occurrences.

Added Microsoft CodeBert embeddings

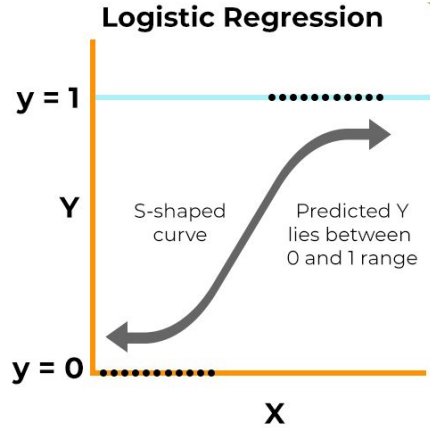
# Data Split - Stratification:

We need to ensure that there are no classes in the validation/test set that are absent from the training set.



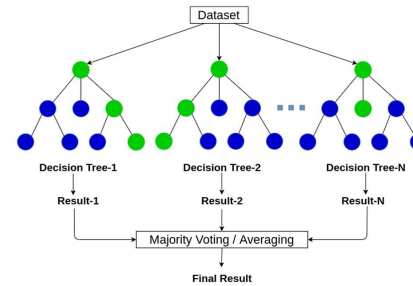
■ Training ■ Validation ■ Testing

# Modelling:



# *XGBoost*

## Random Forest



vertex.ai



# Evaluation:

<b>Logistic Regression</b>  Accuracy: 92.5% Precision: 92.0% Recall: 65.0% F1 Score: 0.75	<b>Random Forest</b>  Accuracy: 93.8 Precision: 93.5 Recall: 66.8 F1 Score: 0.77
<b>XGBoost</b>  Accuracy: 94.2 Precision: 93.9 Recall: 67.2 F1 Score: 0.78	<b>AutoML</b>  Accuracy: / Precision: 94.9% Recall: 67.4% F1 Score: 0.78

# Evaluation - The Winner:



vertex.ai

- Easy to train & retrain
- High performance
- Easy to deploy & monitor

Cost to train: ~\$21.00/h  
Cost to deploy: ~\$0.54/h

Deployed on:



Google Cloud

# Future Developments:

- Integration with GitHub Actions
- Integration with Jira Apps
- Consider developers' workload
- Multi-language support
- Explore a reinforcement learning-based solution
- Add explainability to the assignment

# Resources:

- **Code**
- **CodeBert**
- **GH Archive**
- **Vertex AI**

**THANKS FOR  
WATCHING!**

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