

# Overview in General

This file contains a general overview of the data in the graph including node labels and relationships types.

## References

- [jqassistant](#)
- [Neo4j Python Driver](#)

## Node Labels

### Table 1a - Highest node count by label combination

Lists the 30 label combinations with the highest number of nodes. The labels with the lowest node count are listed in table 1b. The total list would sum up to the total number of labels (100%).

The whole table can be found in the CSV report `Node_label_combination_count`.

	nodeLabels	nodesWithThatLabels	nodesWithThatLabelsPercent
0	[Git, Change]	83882	78.271499
1	[Git, Commit]	10932	10.200806
2	[File, Git]	5619	5.243170
3	[Git, Tag]	1536	1.433264
4	[Author, Git, Person]	1244	1.160794
5	[Json, Key]	668	0.623320
6	[Json, Value, Scalar]	603	0.562668
7	[Committer, Git, Person]	370	0.345252
8	[NPM, Dependency]	338	0.315393
9	[Type, TS, Primitive]	291	0.271536
10	[Type, TS, Declared]	276	0.257540
11	[TS, ExternalDeclaration]	215	0.200620
12	[Type, TS, Literal]	136	0.126904
13	[Json, Value, Object]	133	0.124104
14	[Type, TS, Union]	119	0.111041
15	[Type, TS, ObjectMember]	101	0.094245
16	[NPM, Script]	91	0.084913
17	[TS, Property]	65	0.060652
18	[TS, Function]	47	0.043856
19	[Type, TS, FunctionParameter]	40	0.037325
20	[Type, Object, TS]	39	0.036391
21	[Git, Branch]	39	0.036391
22	[File, Directory]	34	0.031726
23	[Type, TS, Function]	34	0.031726
24	[TS, Parameter]	33	0.030793
25	[Package, File, Json, NPM]	29	0.027060
26	[TS, Variable]	24	0.022395
27	[Value, TS, Literal]	20	0.018662
28	[JQAssistant, Rule, Concept]	19	0.017729
29	[Type, TS, Intersection]	17	0.015863

## Chart 1a - Highest node count by label combination

Values under 0.5% will be grouped into "others" to get a cleaner plot. The group "others" is then broken down in Chart 1b.

<Figure size 640x480 with 0 Axes>

Nodes per label combination (more than 0.5% overall)

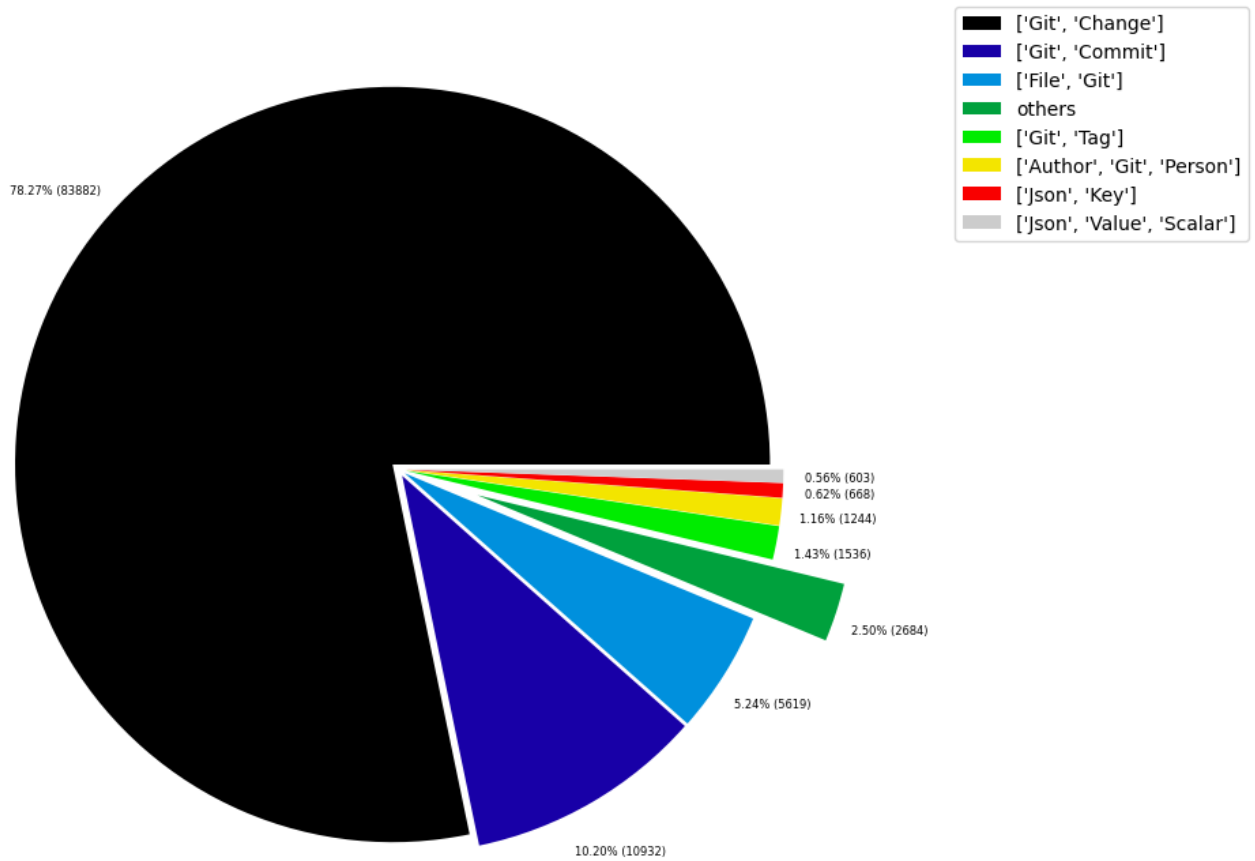


Table 1b - Lowest node count by label combination

Lists the 30 label combinations with the lowest number of nodes until they reach 0.5% of the total node count, which are shown above.

	nodeLabels	nodesWithThatLabels	nodesWithThatLabelsPercent
0	[Analyze, Task, JQAssistant]	1	0.000933
1	[File, TS, Scan]	1	0.000933
2	[TS, Method]	1	0.000933
3	[Repository, File, Git]	1	0.000933
4	[TS, Constructor]	1	0.000933
5	[Value, TS, ObjectMember]	1	0.000933
6	[TS, Class]	1	0.000933
7	[TS, Enum]	2	0.001866
8	[Value, Object, TS]	3	0.002799
9	[Type, TS, Tuple]	3	0.002799
10	[Value, TS, Function]	4	0.003732
11	[TS, TypeParameter]	4	0.003732
12	[Value, TS, Complex]	5	0.004666
13	[NPM, Engine]	6	0.005599
14	[Project, TS]	6	0.005599
15	[File, Local]	6	0.005599
16	[Value, TS, Call]	6	0.005599
17	[Value, TS, Member]	6	0.005599
18	[File, TS, Local, Module]	6	0.005599
19	[Type, TS, TypeParameterReference]	6	0.005599
20	[TS, EnumMember]	8	0.007465
21	[Type, TS, NotIdentified]	11	0.010264
22	[TS, ExternalModule]	11	0.010264
23	[Json, Value, Array]	12	0.011197
24	[Value, TS, Declared]	13	0.012130
25	[TS, TypeAlias]	16	0.014930
26	[File, Directory, Local]	16	0.014930
27	[Type, TS, Intersection]	17	0.015863
28	[TS, Interface]	17	0.015863
29	[JQAssistant, Rule, Concept]	19	0.017729

## Chart 1b - Lowest node count by label combination

Shows the lowest (less than 0.5% overall) node count label combinations. Therefore, this plot breaks down the "others" slice of the pie chart above. Values under 0.01% will be grouped into "others" to get a cleaner plot.

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Nodes per label combination (less than 0.5% overall)

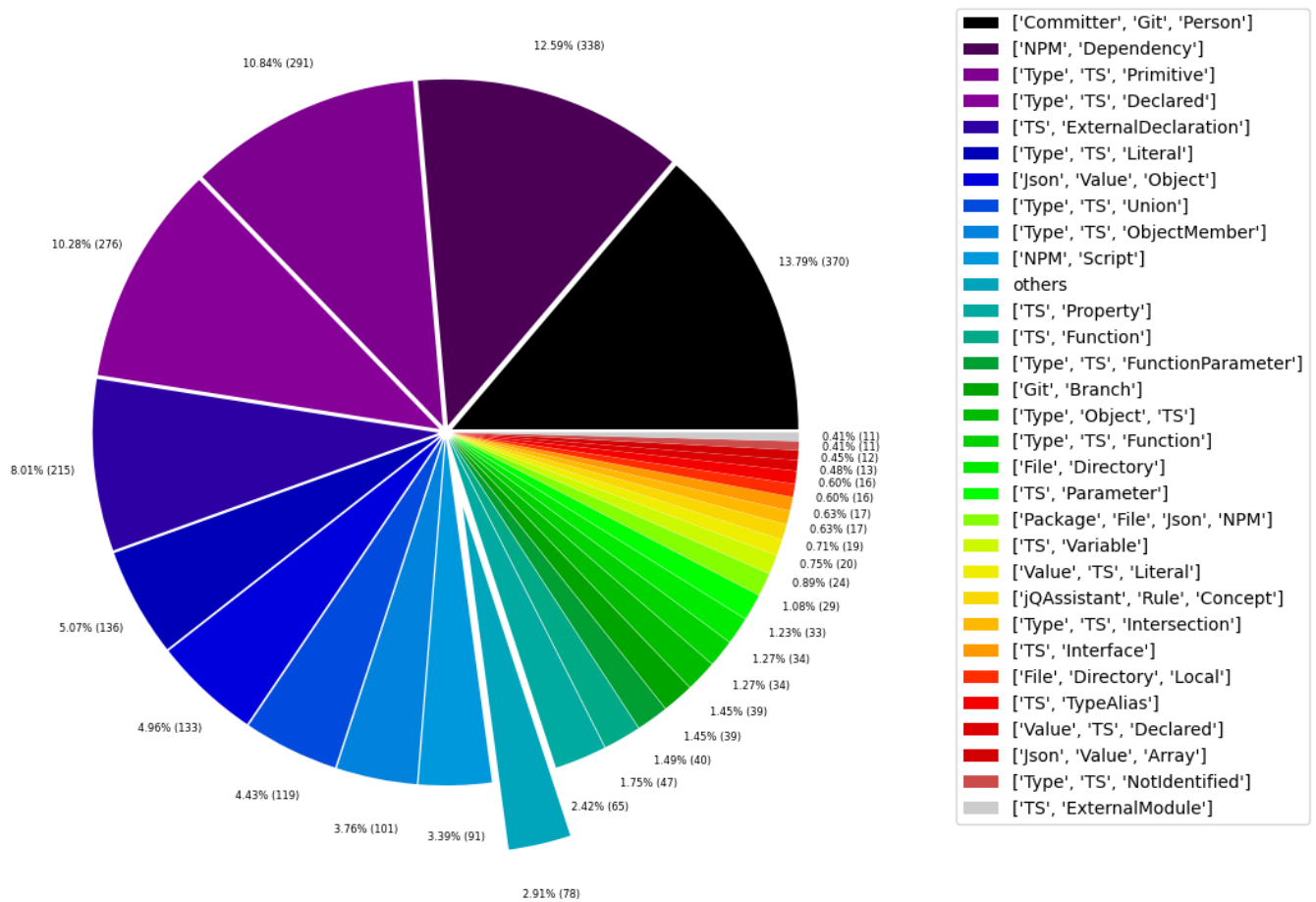


Table 1c - Highest node count by single label

Lists the 40 labels with the highest number of nodes. Doesn't sum up to the total number of nodes or 100% because one node can have multiple labels. Helps to identify commonly used labels.

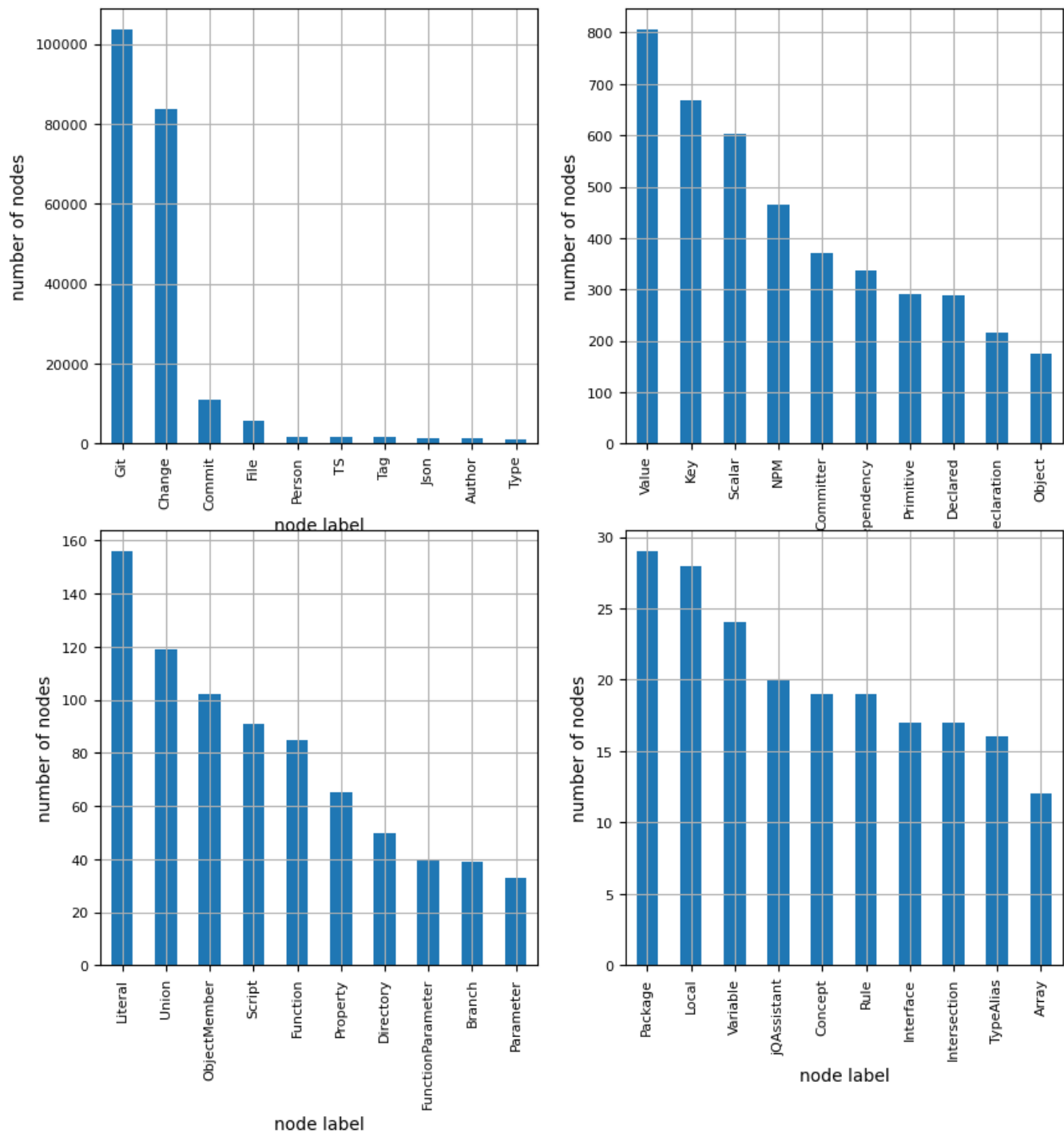
	nodeLabel	nodesWithThatLabel	nodesWithThatLabelPercent
0	Git	103623	96.692110
1	Change	83882	78.271499
2	Commit	10932	10.200806
3	File	5712	5.329949
4	Person	1614	1.506047
5	TS	1589	1.482719
6	Tag	1536	1.433264
7	Json	1445	1.348350
8	Author	1244	1.160794
9	Type	1073	1.001232
10	Value	806	0.752090
11	Key	668	0.623320
12	Scalar	603	0.562668
13	NPM	464	0.432965
14	Committer	370	0.345252
15	Dependency	338	0.315393
16	Primitive	291	0.271536
17	Declared	289	0.269670
18	ExternalDeclaration	215	0.200620
19	Object	175	0.163295
20	Literal	156	0.145566
21	Union	119	0.111041
22	ObjectMember	102	0.095178
23	Script	91	0.084913
24	Function	85	0.079315
25	Property	65	0.060652
26	Directory	50	0.046656
27	FunctionParameter	40	0.037325
28	Branch	39	0.036391
29	Parameter	33	0.030793
30	Package	29	0.027060
31	Local	28	0.026127
32	Variable	24	0.022395
33	jqAssistant	20	0.018662
34	Concept	19	0.017729
35	Rule	19	0.017729
36	Interface	17	0.015863
37	Intersection	17	0.015863
38	TypeAlias	16	0.014930
39	Array	12	0.011197

## Chart 1c - Highest node count by label

Shows the 40 labels with the highest number of nodes.

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## Node count by label



## Relationship Types

Table 2a - Highest relationship count by type

Lists the 30 relationship types with the highest number of occurrences. The whole table can be found in the CSV report `Relationship_type_count`.

Total number of relationships: 320138

	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	CONTAINS_CHANGE	83882	26.201825
1	MODIFIES	83882	26.201825
2	UPDATES	55685	17.394061
3	COMMITTED	21864	6.829555
4	CREATES	19620	6.128607
5	HAS_PARENT	11995	3.746822
6	DELETES	11844	3.699655
7	HAS_COMMIT	10932	3.414777
8	HAS_FILE	5619	1.755181
9	RENAMES	3267	1.020497
10	HAS_NEW_NAME	1751	0.546952
11	HAS_TAG	1536	0.479793
12	ON_COMMIT	1536	0.479793
13	HAS_AUTHOR	1244	0.388582
14	DEPENDS_ON	887	0.277068
15	HAS_KEY	668	0.208660
16	HAS_VALUE	668	0.208660
17	CONTAINS	594	0.185545
18	HAS_COMMITTER	370	0.115575
19	OF_TYPE	337	0.105267
20	EXPORTS	309	0.096521
21	REFERENCES	197	0.061536
22	DECLARES	186	0.058100
23	DECLARES_DEV_DEPENDENCY	169	0.052790
24	DECLARES_DEPENDENCY	161	0.050291
25	HAS_MEMBER	102	0.031861
26	HAS_TYPE_ARGUMENT	94	0.029362
27	DECLARES_SCRIPT	91	0.028425
28	RETURNS	82	0.025614
29	COPIES	79	0.024677

### Chart 2a - Highest relationship count by type

Values under 0.5% will be grouped into "others" to get a cleaner plot. The group "others" is then broken down in the second chart.

<Figure size 640x480 with 0 Axes>



Relationship types (more than 0.5% overall)

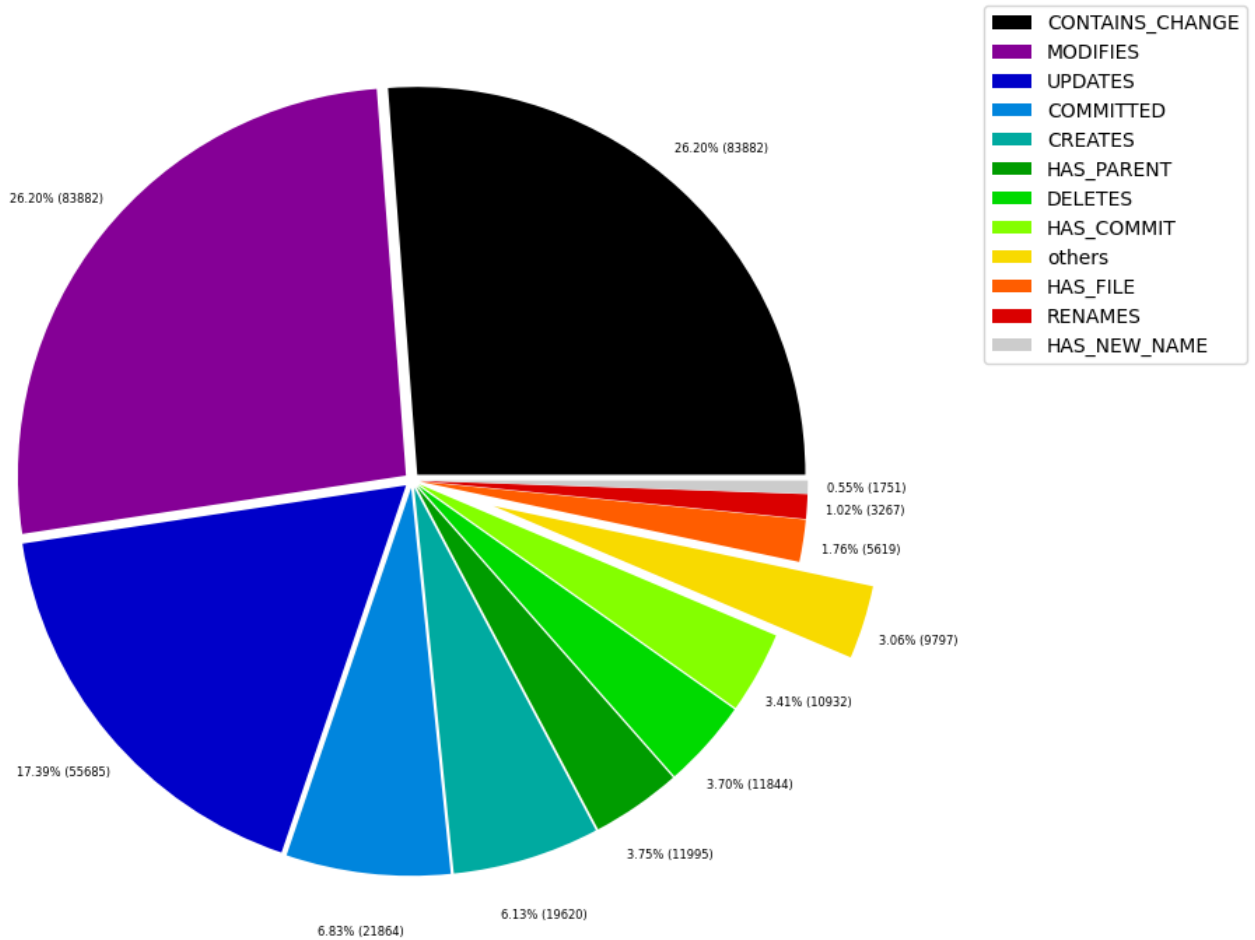


Table 2b - Lowest relationship count by type

Lists the 30 relationships type with the lowest number of occurrences up to 0.5% of the total node count. This is essentially breaking down the "others" slice from the chart above.

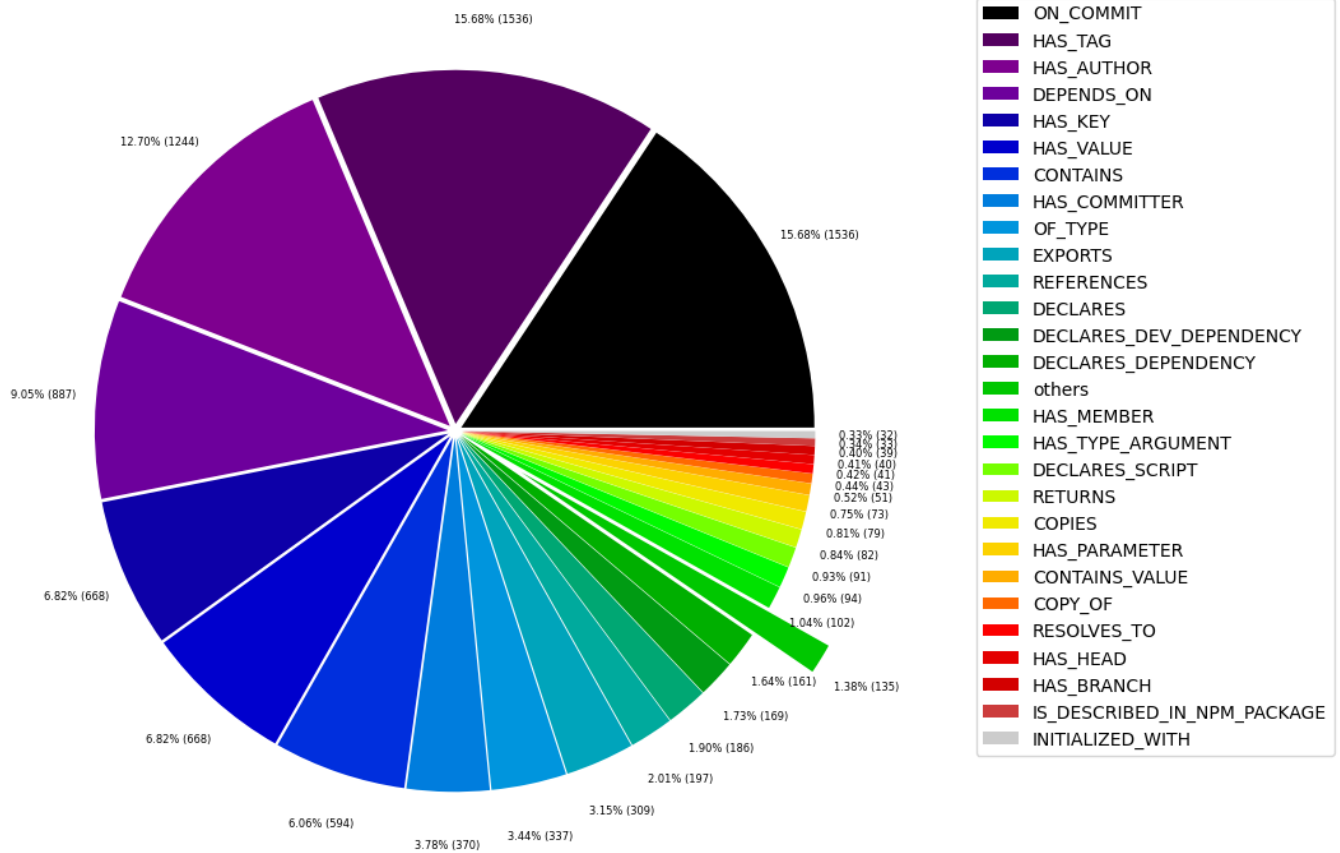
	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	CONSTRAINED_BY	4	0.001249
1	REFERENCED_PROJECTS	5	0.001562
2	MEMBER	6	0.001874
3	HAS_ROOT	6	0.001874
4	HAS_NPM_PACKAGE	6	0.001874
5	HAS_CONFIG	6	0.001874
6	HAS_ARGUMENT	6	0.001874
7	EXTENDS	6	0.001874
8	DECLARES_ENGINE	6	0.001874
9	CONTAINS_PROJECT	6	0.001874
10	CALLS	6	0.001874
11	PARENT	6	0.001874
12	DECLARES_PEER_DEPENDENCY	8	0.002499
13	USES	11	0.003436
14	INCLUDES_CONCEPT	19	0.005935
15	REQUIRES_CONCEPT	28	0.008746
16	INITIALIZED_WITH	32	0.009996
17	IS_DESCRIBED_IN_NPM_PACKAGE	33	0.010308
18	HAS_BRANCH	39	0.012182
19	HAS_HEAD	40	0.012495
20	RESOLVES_TO	41	0.012807
21	COPY_OF	43	0.013432
22	CONTAINS_VALUE	51	0.015931
23	HAS_PARAMETER	73	0.022803
24	COPIES	79	0.024677
25	RETURNS	82	0.025614
26	DECLARES_SCRIPT	91	0.028425
27	HAS_TYPE_ARGUMENT	94	0.029362
28	HAS_MEMBER	102	0.031861
29	DECLARES_DEPENDENCY	161	0.050291

## Chart 2b - Lowest relationship count by type

Shows the lowest (less than 0.5% overall) relationship types. This plot breaks down the "others" slice of the pie chart above. Values under 0.01% will be grouped into "others" to get a cleaner plot.

<Figure size 640x480 with 0 Axes>

Relationship types (less than 0.5% overall)



## Node labels with their relationships

Table 3a - Highest relationship count by node labels and relationship type

Lists the 30 node labels and their relationship types with the highest number of occurrences.

	sourceLabels	relationType	targetLabels	numberOfRelationships	numberOfNodesWithSameLabelsAsSource	numberOfNodesWithSame
0	[Git, Change]	MODIFIES	[File, Git]	83882	83882	
1	[Git, Commit]	CONTAINS_CHANGE	[Git, Change]	83882	10932	
2	[Git, Change]	UPDATES	[File, Git]	55685	83882	
3	[Git, Change]	CREATES	[File, Git]	19620	83882	
4	[Git, Commit]	HAS_PARENT	[Git, Commit]	11995	10932	
5	[Git, Change]	DELETES	[File, Git]	11844	83882	
6	[Repository, File, Git]	HAS_COMMIT	[Git, Commit]	10932	1	
7	[Author, Git, Person]	COMMITTED	[Git, Commit]	10932	1244	
8	[Committer, Git, Person]	COMMITTED	[Git, Commit]	10932	370	
9	[Repository, File, Git]	HAS_FILE	[File, Git]	5619	1	
10	[Git, Change]	RENAMES	[File, Git]	3267	83882	
11	[File, Git]	HAS_NEW_NAME	[File, Git]	1751	5619	
12	[Repository, File, Git]	HAS_TAG	[Git, Tag]	1536	1	
13	[Git, Tag]	ON_COMMIT	[Git, Commit]	1536	1536	
14	[Repository, File, Git]	HAS_AUTHOR	[Author, Git, Person]	1244	1	
15	[Json, Value, Object]	HAS_KEY	[Json, Key]	668	133	
16	[Json, Key]	HAS_VALUE	[Json, Value, Scalar]	552	668	
17	[Repository, File, Git]	HAS_COMMITTER	[Committer, Git, Person]	370	1	
18	[TS, Function]	DEPENDS_ON	[TS, ExternalDeclaration]	293	47	
19	[File, TS, Local, Module]	DEPENDS_ON	[TS, ExternalDeclaration]	236	6	
20	[TS, ExternalModule]	EXPORTS	[TS, ExternalDeclaration]	215	11	
21	[Package, File, Json, NPM]	DECLARES_DEV_DEPENDENCY	[NPM, Dependency]	169	29	
22	[Package, File, Json, NPM]	DECLARES_DEPENDENCY	[NPM, Dependency]	161	29	
23	[Type, TS, Union]	CONTAINS	[Type, TS, Primitive]	147	119	
24	[Type, TS, Declared]	REFERENCES	[TS, ExternalDeclaration]	143	276	
25	[Type, TS, Union]	CONTAINS	[Type, TS, Literal]	119	119	
26	[Json, Key]	HAS_VALUE	[Json, Value, Object]	104	668	
27	[Type, Object, TS]	HAS_MEMBER	[Type, TS, ObjectMember]	101	39	
28	[Package, File, Json, NPM]	DECLARES_SCRIPT	[NPM, Script]	91	29	
29	[Git, Change]	COPIES	[File, Git]	79	83882	

## Graph Density

total\_number\_of\_nodes (vertices): 107168

total\_number\_of\_relationships (edges): 320138

-> total directed graph density: 2.7874753028528382e-05

-> total directed graph density in percent: 0.002787475302852838