

# 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`.

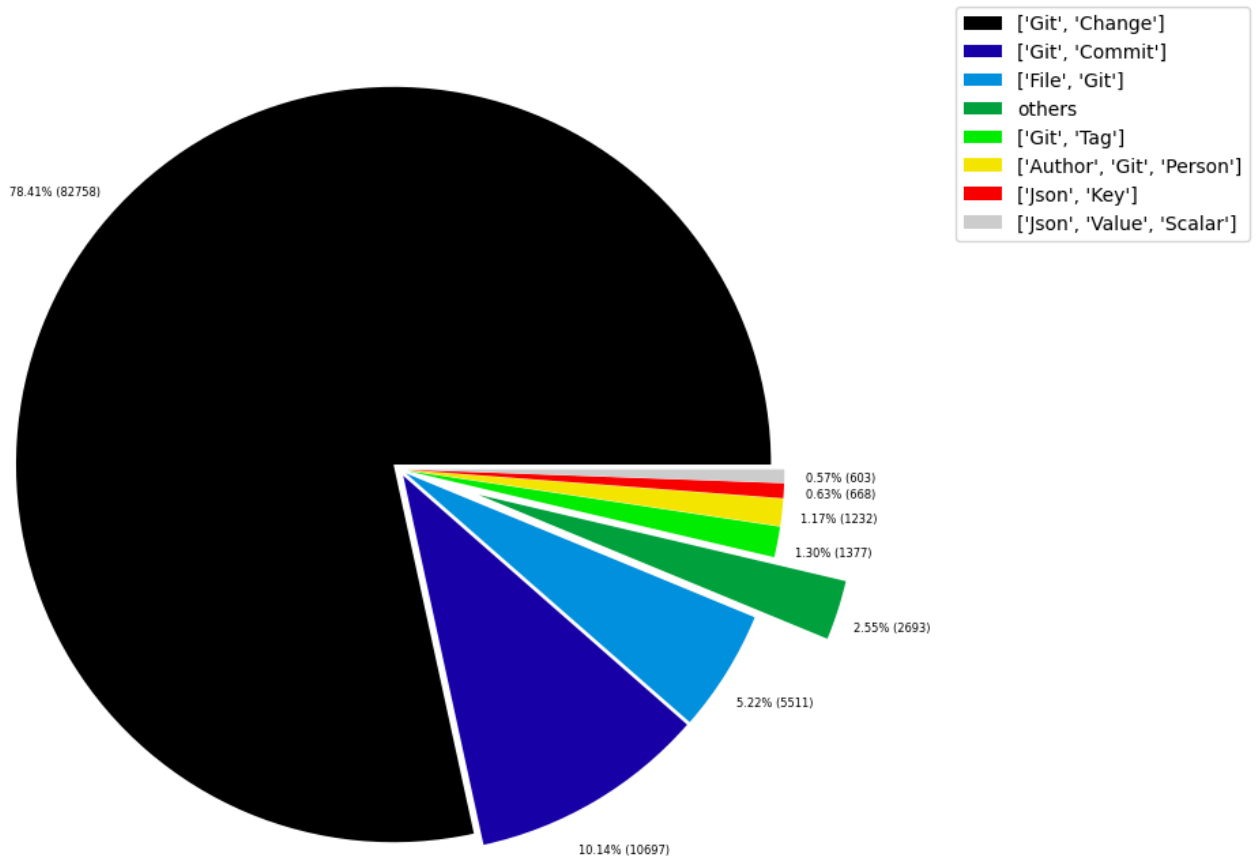
	nodeLabels	nodesWithThatLabels	nodesWithThatLabelsPercent
0	[Git, Change]	82758	78.414615
1	[Git, Commit]	10697	10.135590
2	[File, Git]	5511	5.221766
3	[Git, Tag]	1377	1.304731
4	[Author, Git, Person]	1232	1.167341
5	[Json, Key]	668	0.632941
6	[Json, Value, Scalar]	603	0.571353
7	[Committer, Git, Person]	371	0.351529
8	[NPM, Dependency]	338	0.320261
9	[Type, TS, Primitive]	291	0.275727
10	[Type, TS, Declared]	276	0.261515
11	[TS, ExternalDeclaration]	214	0.202769
12	[Type, TS, Literal]	136	0.128862
13	[Json, Value, Object]	133	0.126020
14	[Type, TS, Union]	119	0.112755
15	[Type, TS, ObjectMember]	101	0.095699
16	[NPM, Script]	91	0.086224
17	[TS, Property]	65	0.061589
18	[TS, Function]	47	0.044533
19	[Type, TS, FunctionParameter]	40	0.037901
20	[Type, Object, TS]	39	0.036953
21	[Git, Branch]	36	0.034111
22	[File, Directory]	34	0.032216
23	[Type, TS, Function]	34	0.032216
24	[TS, Parameter]	33	0.031268
25	[Package, File, Json, NPM]	29	0.027478
26	[TS, Variable]	24	0.022740
27	[TS, ExternalModule]	23	0.021793
28	[Value, TS, Literal]	20	0.018950
29	[JQAssistant, Rule, Concept]	19	0.018003

## 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	0.000948
1	[File, TS, Scan]	1	0.000948
2	[TS, Method]	1	0.000948
3	[Repository, File, Git]	1	0.000948
4	[TS, Constructor]	1	0.000948
5	[Value, TS, ObjectMember]	1	0.000948
6	[TS, Class]	1	0.000948
7	[TS, Enum]	2	0.001895
8	[Value, Object, TS]	3	0.002843
9	[Type, TS, Tuple]	3	0.002843
10	[Value, TS, Function]	4	0.003790
11	[TS, TypeParameter]	4	0.003790
12	[Value, TS, Complex]	5	0.004738
13	[NPM, Engine]	6	0.005685
14	[Project, TS]	6	0.005685
15	[File, Local]	6	0.005685
16	[Value, TS, Call]	6	0.005685
17	[Value, TS, Member]	6	0.005685
18	[File, TS, Local, Module]	6	0.005685
19	[Type, TS, TypeParameterReference]	6	0.005685
20	[TS, EnumMember]	8	0.007580
21	[Type, TS, NotIdentified]	11	0.010423
22	[Json, Value, Array]	12	0.011370
23	[Value, TS, Declared]	13	0.012318
24	[TS, TypeAlias]	16	0.015160
25	[File, Directory, Local]	16	0.015160
26	[TS, Interface]	17	0.016108
27	[Type, TS, Intersection]	17	0.016108
28	[JQAssistant, Rule, Concept]	19	0.018003
29	[Value, TS, Literal]	20	0.018950

## 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.

<Figure size 640x480 with 0 Axes>

Nodes per label combination (less than 0.5% overall)

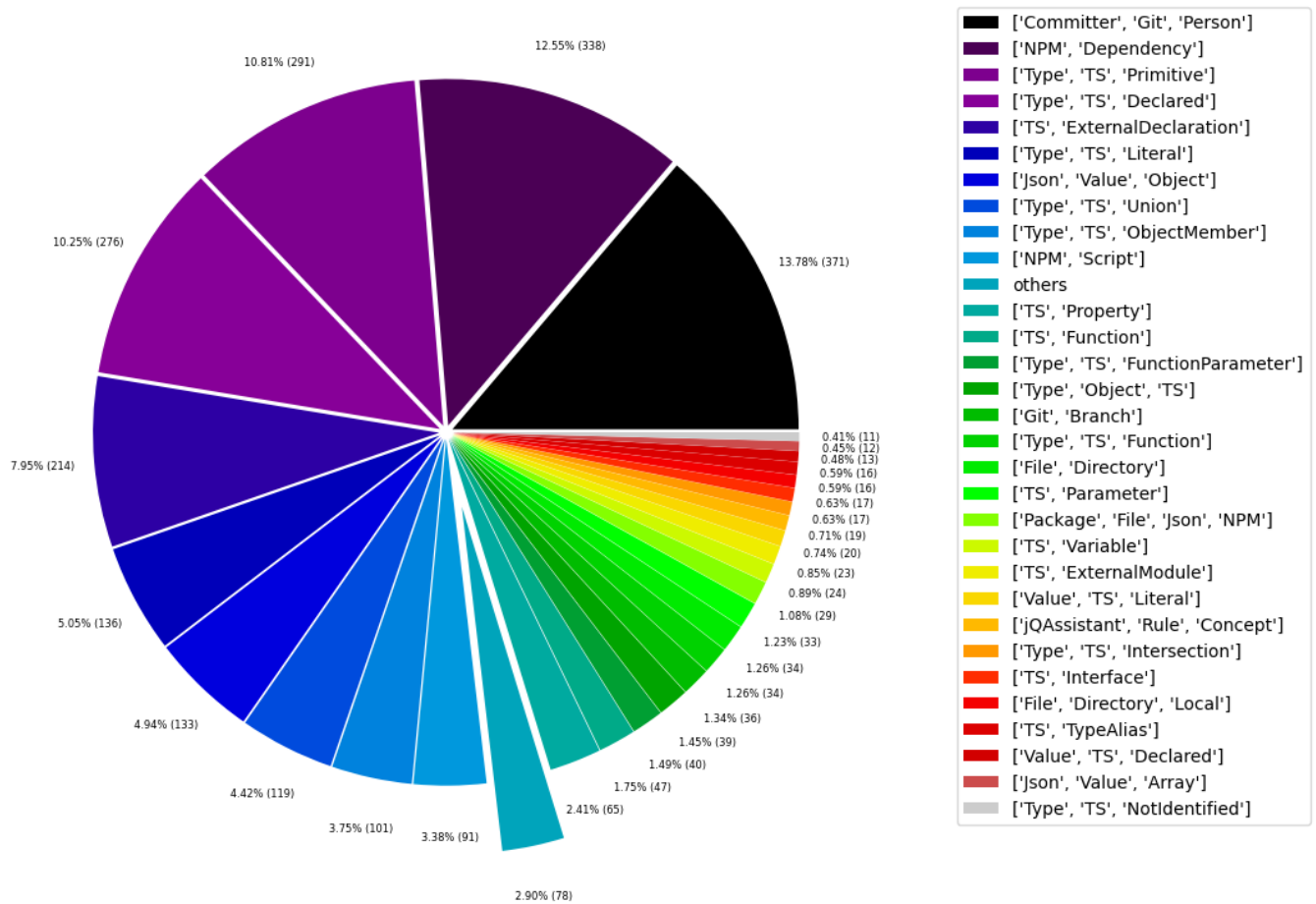


Table 1c - Highest node count by single label

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.

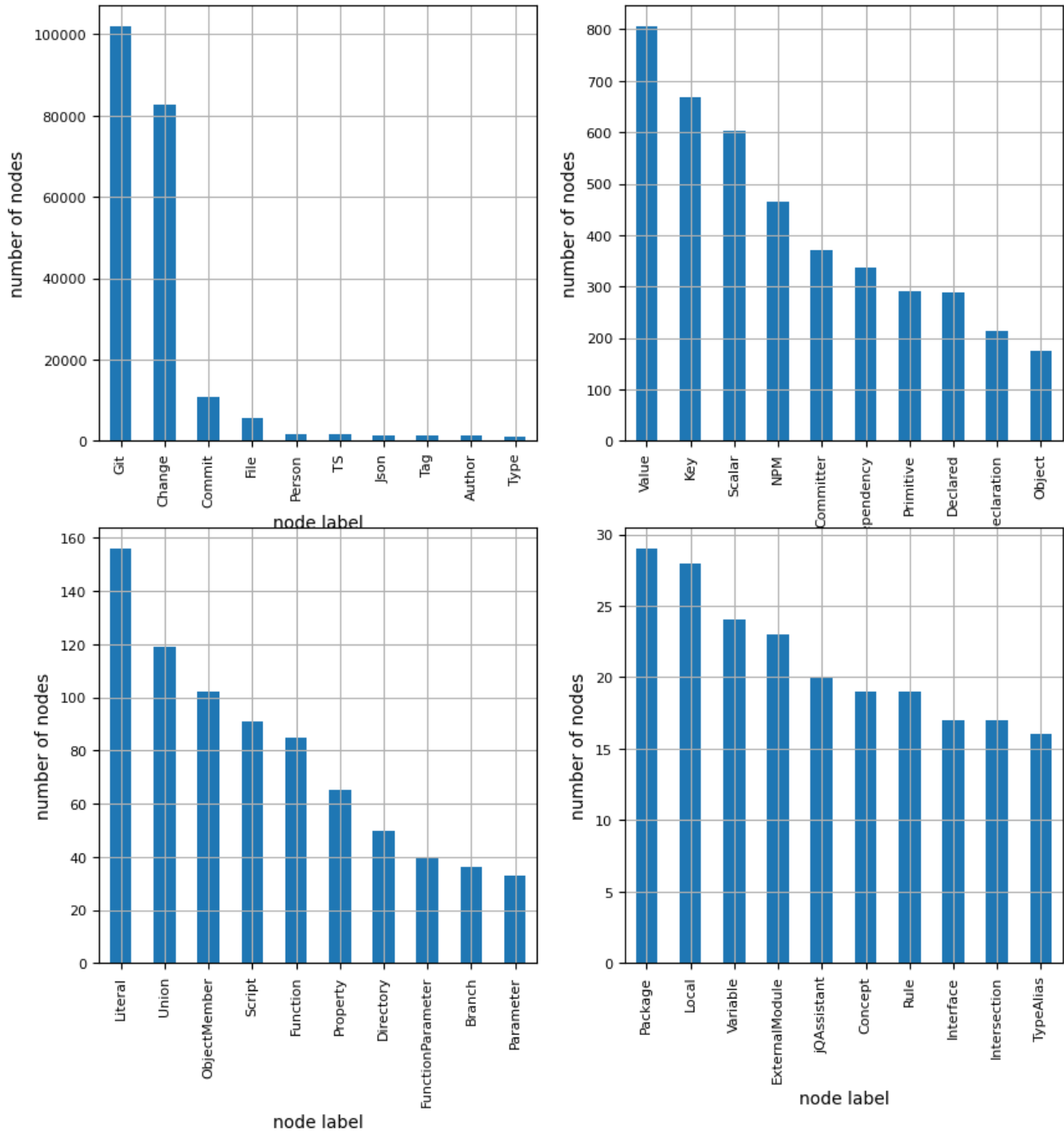
	nodeLabel	nodesWithThatLabel	nodesWithThatLabelPercent
0	Git	101983	96.630629
1	Change	82758	78.414615
2	Commit	10697	10.135590
3	File	5604	5.309885
4	Person	1603	1.518870
5	TS	1600	1.516027
6	Json	1445	1.369162
7	Tag	1377	1.304731
8	Author	1232	1.167341
9	Type	1073	1.016686
10	Value	806	0.763699
11	Key	668	0.632941
12	Scalar	603	0.571353
13	NPM	464	0.439648
14	Committer	371	0.351529
15	Dependency	338	0.320261
16	Primitive	291	0.275727
17	Declared	289	0.273832
18	ExternalDeclaration	214	0.202769
19	Object	175	0.165815
20	Literal	156	0.147813
21	Union	119	0.112755
22	ObjectMember	102	0.096647
23	Script	91	0.086224
24	Function	85	0.080539
25	Property	65	0.061589
26	Directory	50	0.047376
27	FunctionParameter	40	0.037901
28	Branch	36	0.034111
29	Parameter	33	0.031268
30	Package	29	0.027478
31	Local	28	0.026530
32	Variable	24	0.022740
33	ExternalModule	23	0.021793
34	jqAssistant	20	0.018950
35	Concept	19	0.018003
36	Rule	19	0.018003
37	Interface	17	0.016108
38	Intersection	17	0.016108
39	TypeAlias	16	0.015160

## 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: 315381

	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	CONTAINS_CHANGE	82758	26.240642
1	MODIFIES	82758	26.240642
2	UPDATES	54172	17.176685
3	COMMITTED	21394	6.783541
4	CREATES	19881	6.303804
5	DELETES	11955	3.790653
6	HAS_PARENT	11749	3.725335
7	HAS_COMMIT	10697	3.391771
8	HAS_FILE	5511	1.747410
9	RENAMES	3250	1.030500
10	HAS_NEW_NAME	1729	0.548226
11	HAS_TAG	1377	0.436615
12	ON_COMMIT	1377	0.436615
13	HAS_AUTHOR	1232	0.390639
14	DEPENDS_ON	961	0.304711
15	HAS_KEY	668	0.211807
16	HAS_VALUE	668	0.211807
17	CONTAINS	594	0.188344
18	HAS_COMMITTER	371	0.117635
19	OF_TYPE	337	0.106855
20	EXPORTS	283	0.089733
21	REFERENCES	197	0.062464
22	DECLARES	186	0.058976
23	DECLARES_DEV_DEPENDENCY	169	0.053586
24	DECLARES_DEPENDENCY	161	0.051049
25	HAS_MEMBER	102	0.032342
26	HAS_TYPE_ARGUMENT	94	0.029805
27	DECLARES_SCRIPT	91	0.028854
28	RETURNS	82	0.026000
29	COPIES	77	0.024415

## 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.

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Relationship types (more than 0.5% overall)

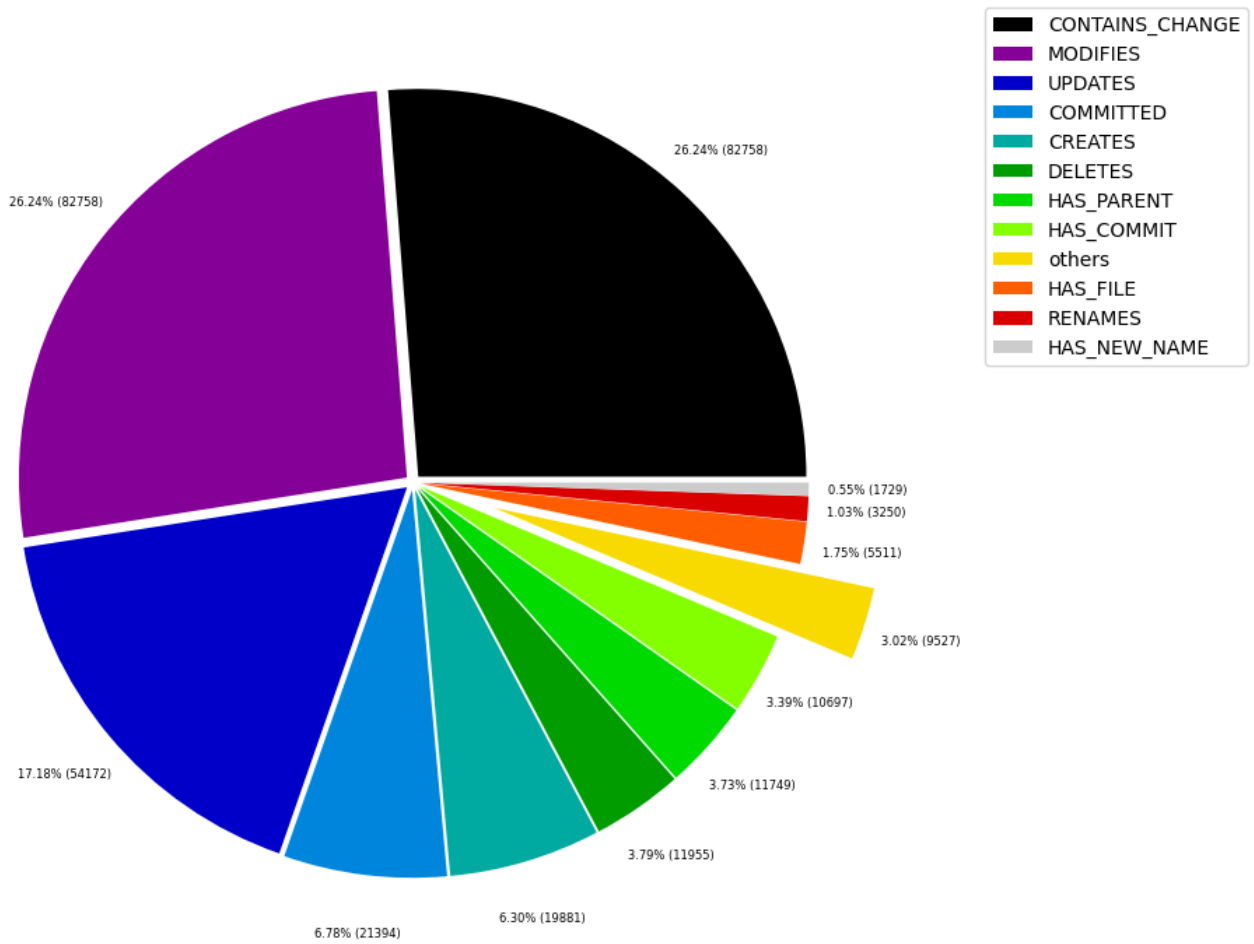


Table 2b - Lowest relationship count by type

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.

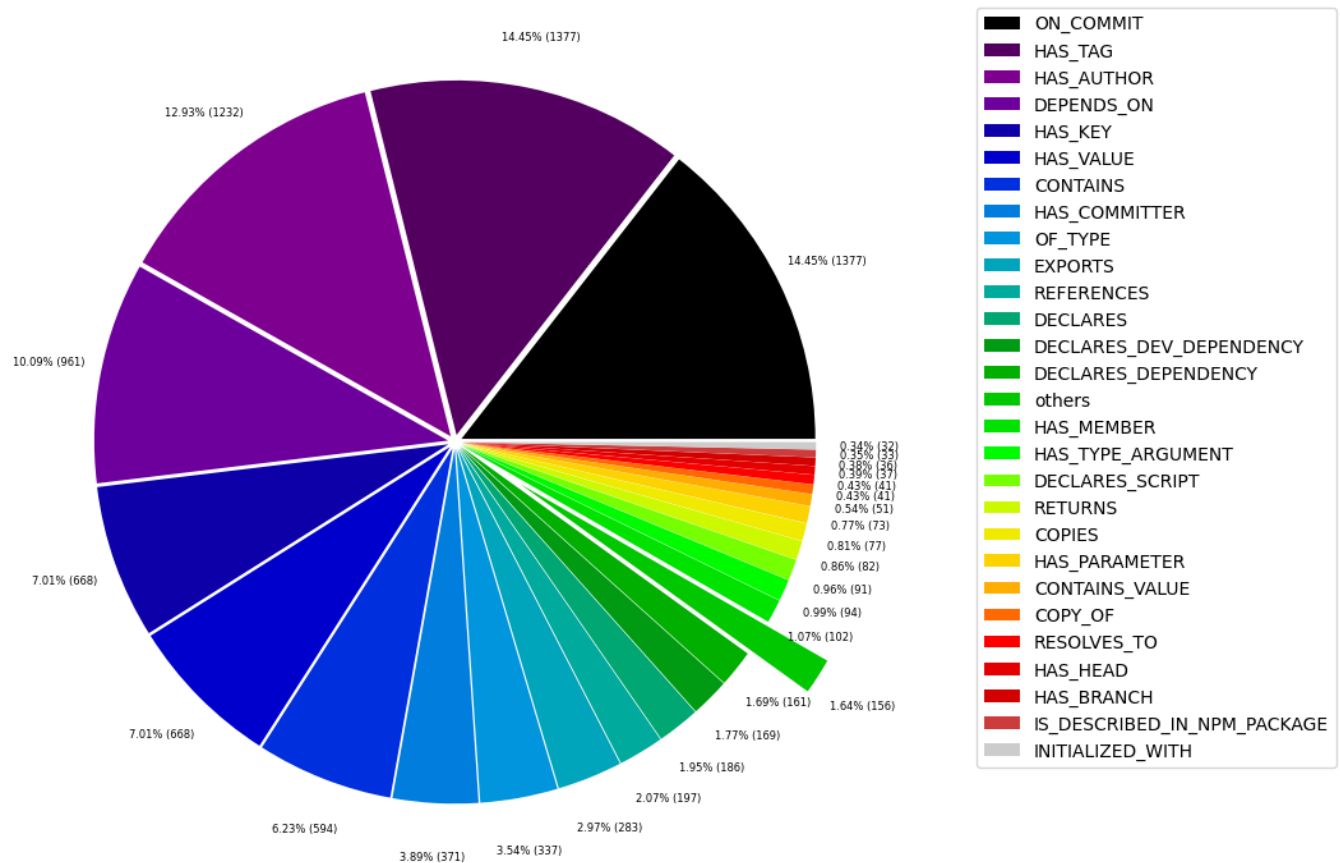
	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	PROVIDED_BY_NPM_DEPENDENCY	1	0.000317
1	IS_IMPLEMENTED_IN	2	0.000634
2	CONSTRAINED_BY	4	0.001268
3	REFERENCED_PROJECTS	5	0.001585
4	CONTAINS_PROJECT	6	0.001902
5	DECLARES_ENGINE	6	0.001902
6	EXTENDS	6	0.001902
7	HAS_ARGUMENT	6	0.001902
8	CALLS	6	0.001902
9	HAS_NPM_PACKAGE	6	0.001902
10	HAS_ROOT	6	0.001902
11	MEMBER	6	0.001902
12	PARENT	6	0.001902
13	HAS_CONFIG	6	0.001902
14	SIMILAR	6	0.001902
15	DECLARES_PEER_DEPENDENCY	8	0.002537
16	INCLUDES_CONCEPT	19	0.006024
17	USES	23	0.007293
18	REQUIRES_CONCEPT	28	0.008878
19	INITIALIZED_WITH	32	0.010146
20	IS_DESCRIBED_IN_NPM_PACKAGE	33	0.010464
21	HAS_BRANCH	36	0.011415
22	HAS_HEAD	37	0.011732
23	RESOLVES_TO	41	0.013000
24	COPY_OF	41	0.013000
25	CONTAINS_VALUE	51	0.016171
26	HAS_PARAMETER	73	0.023147
27	COPIES	77	0.024415
28	RETURNS	82	0.026000
29	DECLARES_SCRIPT	91	0.028854

## 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	numberOfNodes'
0	[Git, Change]	MODIFIES	[File, Git]	82758	82758	
1	[Git, Commit]	CONTAINS_CHANGE	[Git, Change]	82758	10697	
2	[Git, Change]	UPDATES	[File, Git]	54172	82758	
3	[Git, Change]	CREATES	[File, Git]	19881	82758	
4	[Git, Change]	DELETES	[File, Git]	11955	82758	
5	[Git, Commit]	HAS_PARENT	[Git, Commit]	11749	10697	
6	[Repository, File, Git]	HAS_COMMIT	[Git, Commit]	10697	1	
7	[Author, Git, Person]	COMMITTED	[Git, Commit]	10697	1232	
8	[Committer, Git, Person]	COMMITTED	[Git, Commit]	10697	371	
9	[Repository, File, Git]	HAS_FILE	[File, Git]	5511	1	
10	[Git, Change]	RENAMES	[File, Git]	3250	82758	
11	[File, Git]	HAS_NEW_NAME	[File, Git]	1729	5511	
12	[Repository, File, Git]	HAS_TAG	[Git, Tag]	1377	1	
13	[Git, Tag]	ON_COMMIT	[Git, Commit]	1377	1377	
14	[Repository, File, Git]	HAS_AUTHOR	[Author, Git, Person]	1232	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]	371	1	
18	[TS, Function]	DEPENDS_ON	[TS, ExternalDeclaration]	289	47	
19	[File, TS, Local, Module, Mark4ModuleWeaklyCon...]	DEPENDS_ON	[TS, ExternalDeclaration]	232	4	
20	[TS, ExternalModule]	EXPORTS	[TS, ExternalDeclaration]	214	23	
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]	142	276	
25	[TS, Function]	DEPENDS_ON	[TS, ExternalModule]	132	47	
26	[Type, TS, Union]	CONTAINS	[Type, TS, Literal]	119	119	
27	[Json, Key]	HAS_VALUE	[Json, Value, Object]	104	668	
28	[Type, Object, TS]	HAS_MEMBER	[Type, TS, ObjectMember]	101	39	
29	[Package, File, Json, NPM]	DECLARES_SCRIPT	[NPM, Script]	91	29	

## Graph Density

total\_number\_of\_nodes (vertices): 105539

total\_number\_of\_relationships (edges): 315381

-> total directed graph density: 2.831481257451528e-05

-> total directed graph density in percent: 0.002831481257451528