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]	77935	77.995056
1	[Git, Commit]	10306	10.313942
2	[File, Git]	5340	5.344115
3	[Git, Tag]	1198	1.198923
4	[Author, Git, Person]	1192	1.192919
5	[Json, Key]	668	0.668515
6	[Json, Value, Scalar]	603	0.603465
7	[Committer, Git, Person]	371	0.371286
8	[NPM, Dependency]	330	0.330254
9	[Type, TS, Primitive]	291	0.291224
10	[Type, TS, Declared]	276	0.276213
11	[TS, ExternalDeclaration]	215	0.215166
12	[Type, TS, Literal]	136	0.136105
13	[Json, Value, Object]	133	0.133102
14	[Type, TS, Union]	119	0.119092
15	[Type, TS, ObjectMember]	101	0.101078
16	[NPM, Script]	91	0.091070
17	[TS, Property]	65	0.065050
18	[TS, Function]	47	0.047036
19	[Type, TS, FunctionParameter]	40	0.040031
20	[Type, Object, TS]	39	0.039030
21	[File, Directory]	34	0.034026
22	[Type, TS, Function]	34	0.034026
23	[TS, Parameter]	33	0.033025
24	[Git, Branch]	30	0.030023
25	[Package, File, Json, NPM]	29	0.029022
26	[TS, ExternalModule]	25	0.025019
27	[TS, Variable]	24	0.024018
28	[Value, TS, Literal]	20	0.020015
29	[jQAssistant, Rule, Concept]	19	0.019015

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>
```

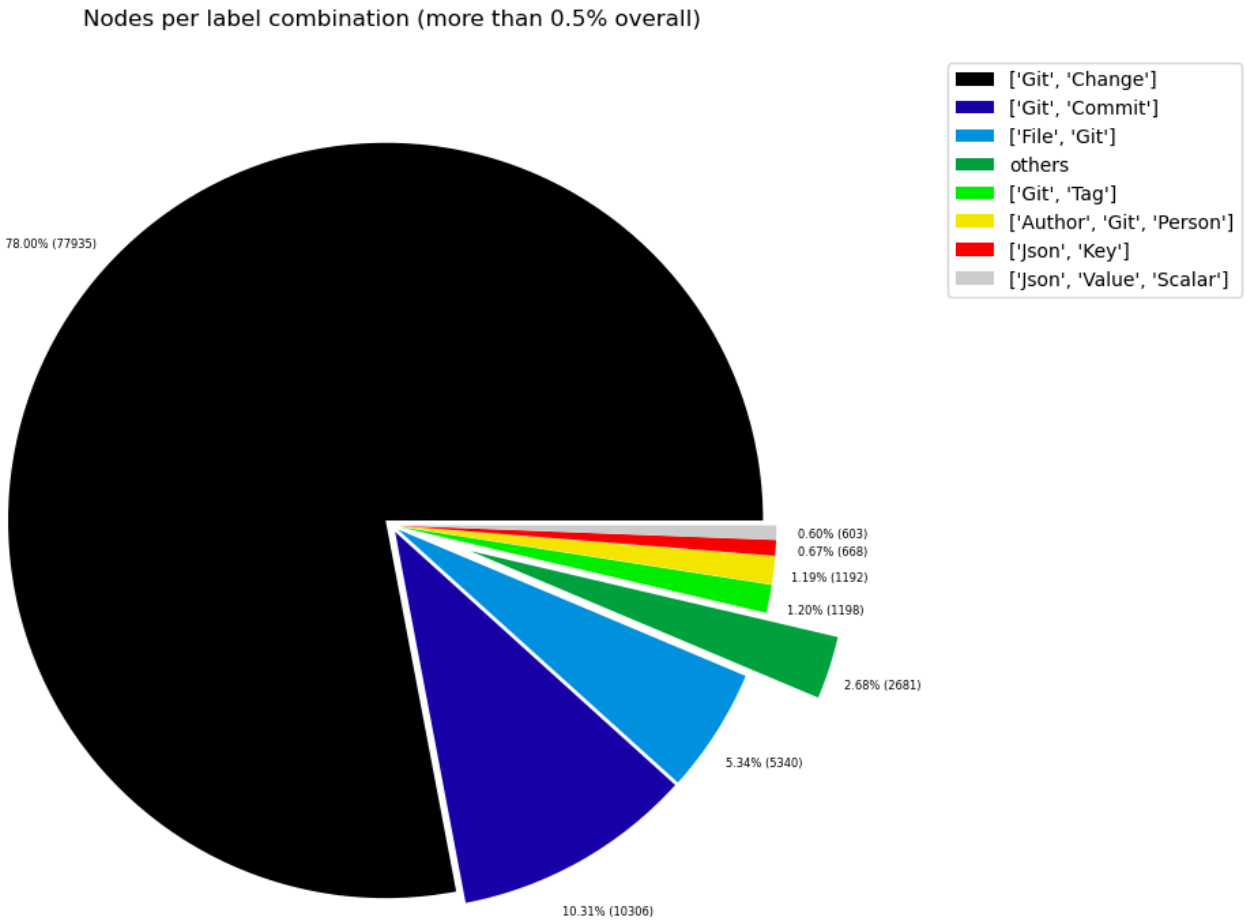


Table 1b - Lowest node count by label combination

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	0.001001
1	[File, TS, Scan]	1	0.001001
2	[TS, Method]	1	0.001001
3	[Value, TS, ObjectMember]	1	0.001001
4	[TS, Constructor]	1	0.001001
5	[TS, Class]	1	0.001001
6	[TS, Enum]	2	0.002002
7	[Value, Object, TS]	3	0.003002
8	[Type, TS, Tuple]	3	0.003002
9	[Value, TS, Function]	4	0.004003
10	[TS, TypeParameter]	4	0.004003
11	[Value, TS, Complex]	5	0.005004
12	[NPM, Engine]	6	0.006005
13	[Project, TS]	6	0.006005
14	[File, Local]	6	0.006005
15	[Value, TS, Call]	6	0.006005
16	[Value, TS, Member]	6	0.006005
17	[File, TS, Local, Module]	6	0.006005
18	[Type, TS, TypeParameterReference]	6	0.006005
19	[TS, EnumMember]	8	0.008006
20	[Type, TS, NotIdentified]	11	0.011008
21	[Json, Value, Array]	12	0.012009
22	[Value, TS, Declared]	13	0.013010
23	[TS, TypeAlias]	16	0.016012
24	[File, Directory, Local]	16	0.016012
25	[TS, Interface]	17	0.017013
26	[Type, TS, Intersection]	17	0.017013
27	[jQAssistant, Rule, Concept]	19	0.019015
28	[Value, TS, Literal]	20	0.020015
29	[TS, Variable]	24	0.024018

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>
```

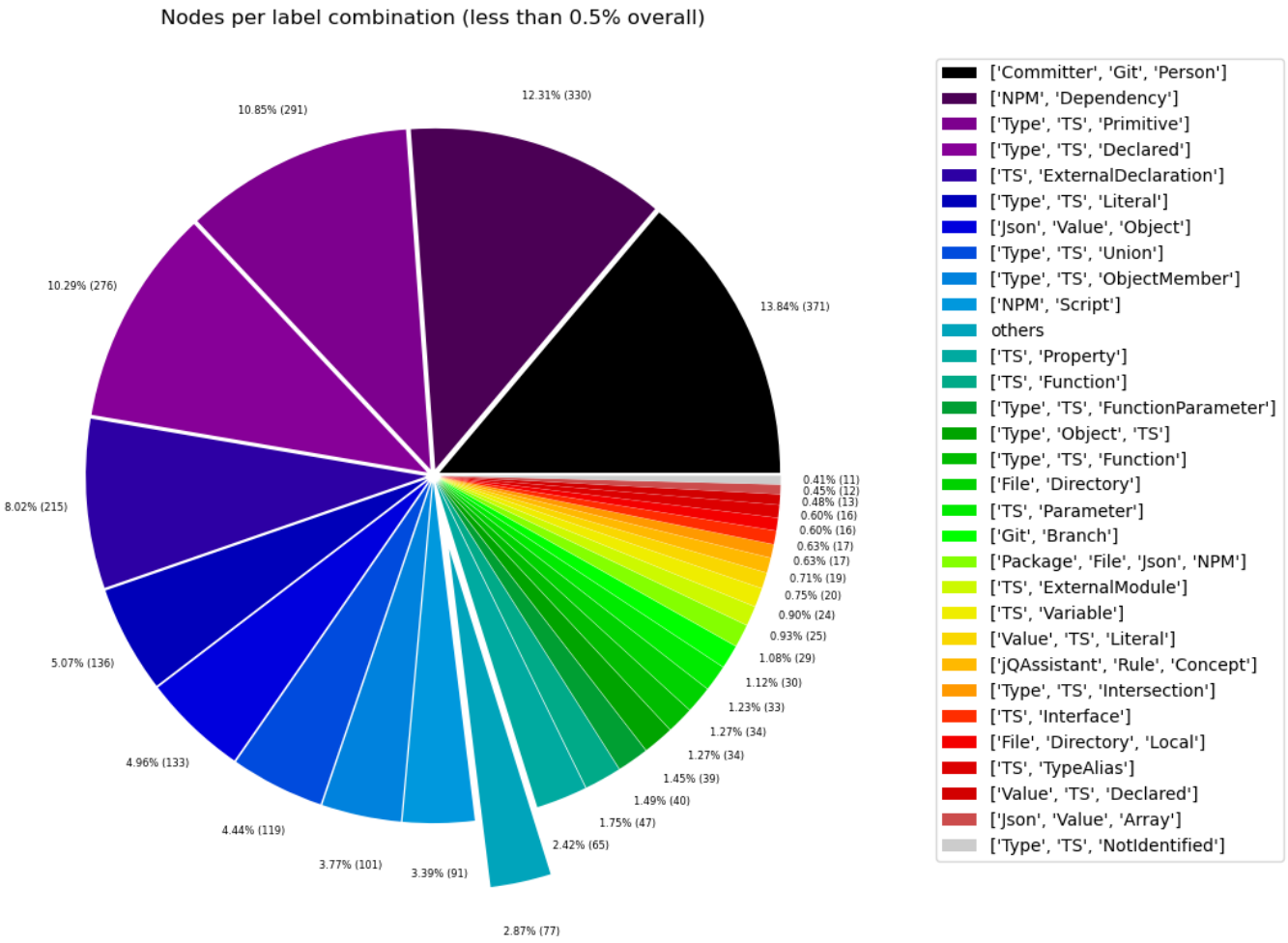


Table 1c - Highest node count by single label

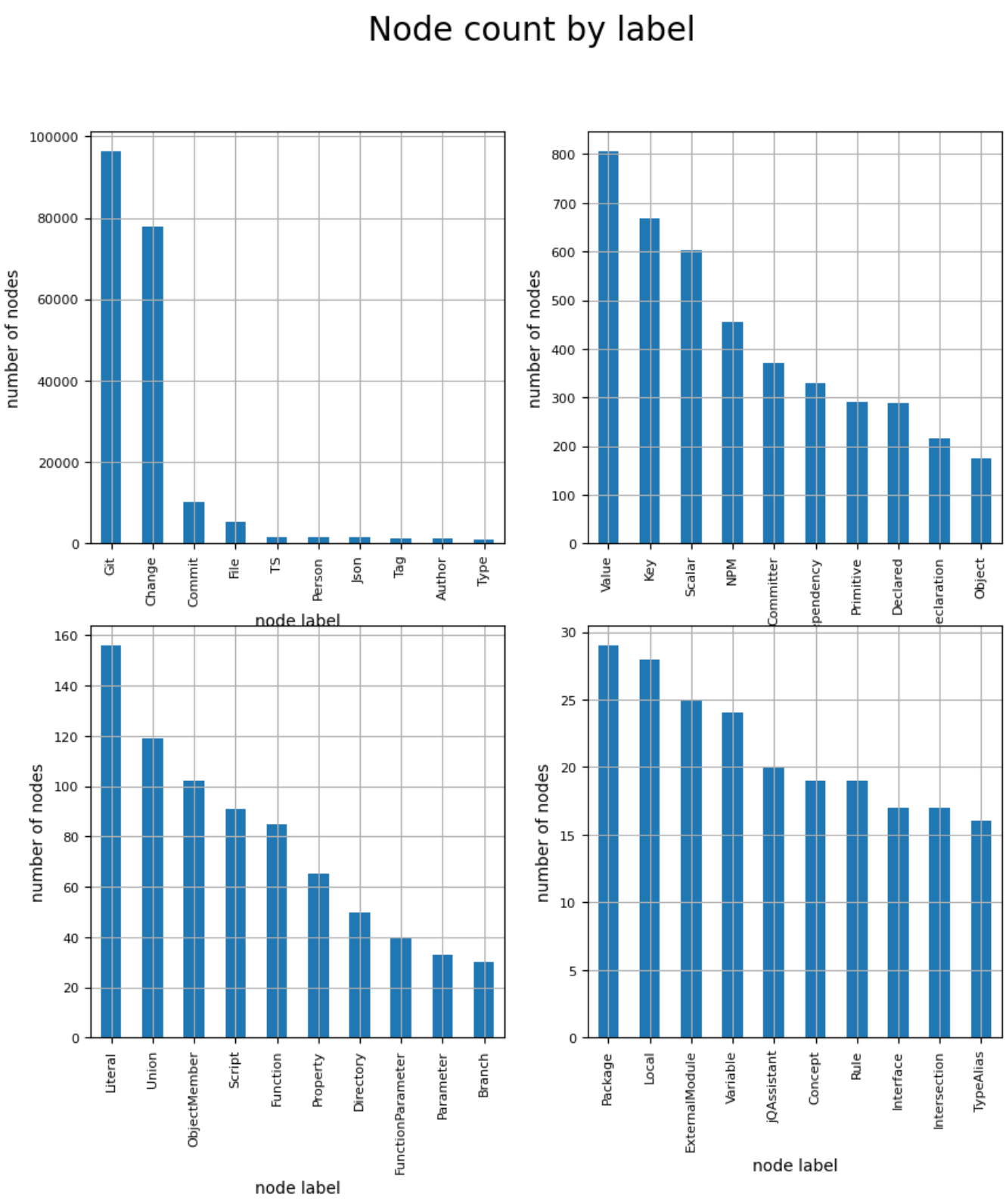
Lists the 40 labels with the highest number of nodes. Doesn't sum up to the total number of nodes or 100% because one node can have multiple labels. Helps to identify commonly used labels.

	nodeLabel	nodesWithThatLabel	nodesWithThatLabelPercent
0	Git	96372	96.446264
1	Change	77935	77.995056
2	Commit	10306	10.313942
3	File	5432	5.436186
4	TS	1603	1.604235
5	Person	1563	1.564204
6	Json	1445	1.446114
7	Tag	1198	1.198923
8	Author	1192	1.192919
9	Type	1073	1.073827
10	Value	806	0.806621
11	Key	668	0.668515
12	Scalar	603	0.603465
13	NPM	456	0.456351
14	Committer	371	0.371286
15	Dependency	330	0.330254
16	Primitive	291	0.291224
17	Declared	289	0.289223
18	ExternalDeclaration	215	0.215166
19	Object	175	0.175135
20	Literal	156	0.156120
21	Union	119	0.119092
22	ObjectMember	102	0.102079
23	Script	91	0.091070
24	Function	85	0.085066
25	Property	65	0.065050
26	Directory	50	0.050039
27	FunctionParameter	40	0.040031
28	Parameter	33	0.033025
29	Branch	30	0.030023
30	Package	29	0.029022
31	Local	28	0.028022
32	ExternalModule	25	0.025019
33	Variable	24	0.024018
34	jQAssistant	20	0.020015
35	Concept	19	0.019015
36	Rule	19	0.019015
37	Interface	17	0.017013
38	Intersection	17	0.017013
39	TypeAlias	16	0.016012

Chart 1c - Highest node count by label

Shows the 40 labels with the highest number of nodes.

```
<Figure size 640x480 with 0 Axes>
```



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: 279518
```

	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	CONTAINS_CHANGE	77935	27.881925
1	MODIFIES	77935	27.881925
2	UPDATES	51513	18.429225
3	COMMITTED	20612	7.374123
4	CREATES	18526	6.627838
5	HAS_PARENT	11337	4.055911
6	DELETES	10807	3.866298
7	RENAMES	2911	1.041436
8	HAS_NEW_NAME	1647	0.589229
9	ON_COMMIT	1198	0.428595
10	DEPENDS_ON	959	0.343091
11	HAS_KEY	668	0.238983
12	HAS_VALUE	668	0.238983
13	CONTAINS	593	0.212151
14	OF_TYPE	337	0.120565
15	EXPORTS	276	0.098741
16	REFERENCES	197	0.070478
17	DECLARES	186	0.066543
18	DECLARES_DEV_DEPENDENCY	169	0.060461
19	DECLARES_DEPENDENCY	161	0.057599
20	HAS_MEMBER	102	0.036491
21	HAS_TYPE_ARGUMENT	94	0.033629
22	DECLARES_SCRIPT	91	0.032556
23	RETURNS	82	0.029336
24	RESOLVES_TO	77	0.027547
25	HAS_PARAMETER	73	0.026116
26	CONTAINS_VALUE	51	0.018246
27	COPIES	43	0.015384
28	INITIALIZED_WITH	32	0.011448
29	IS_DESCRIBED_IN_NPM_PACKAGE	32	0.011448

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>
```

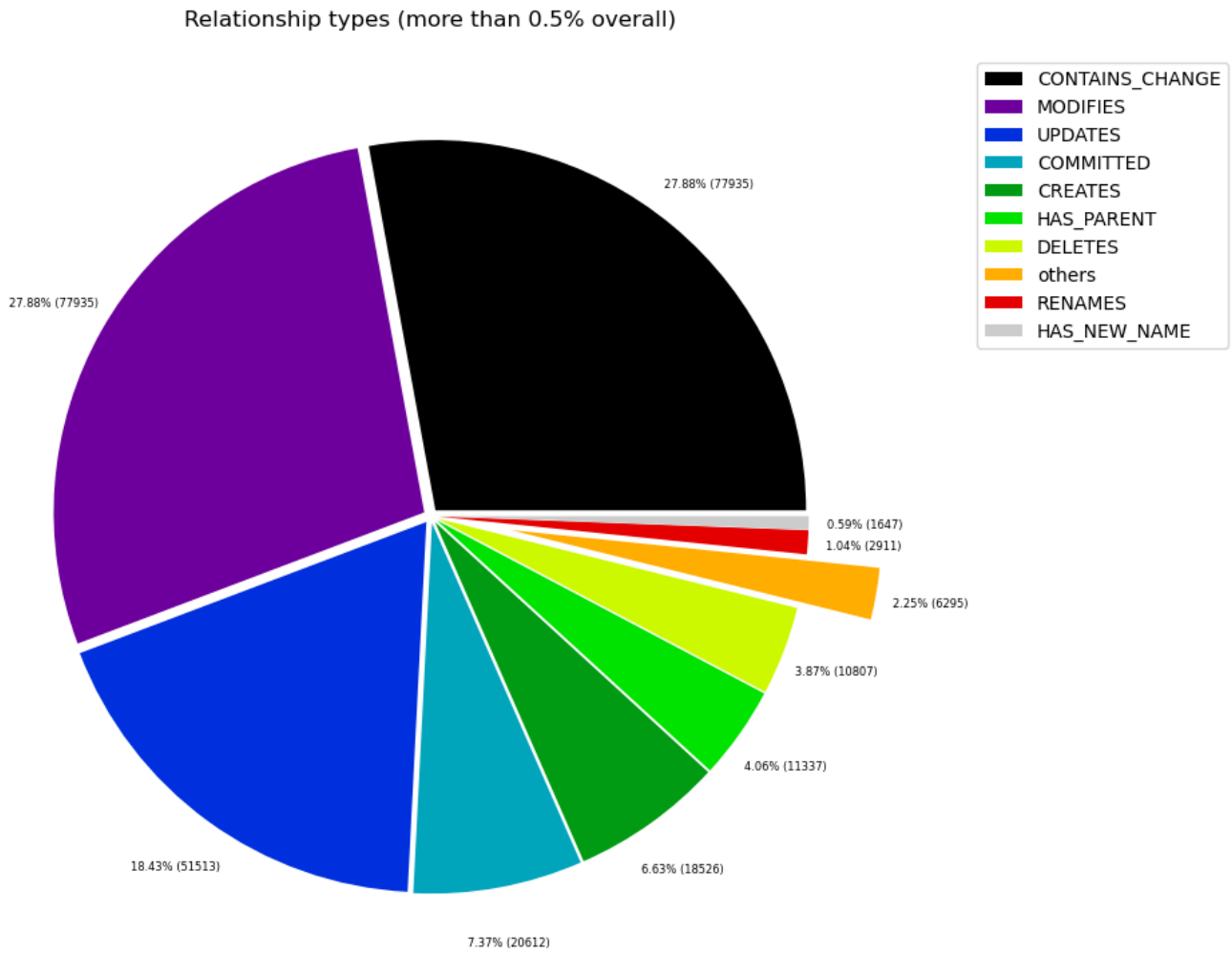


Table 2b - Lowest relationship count by type

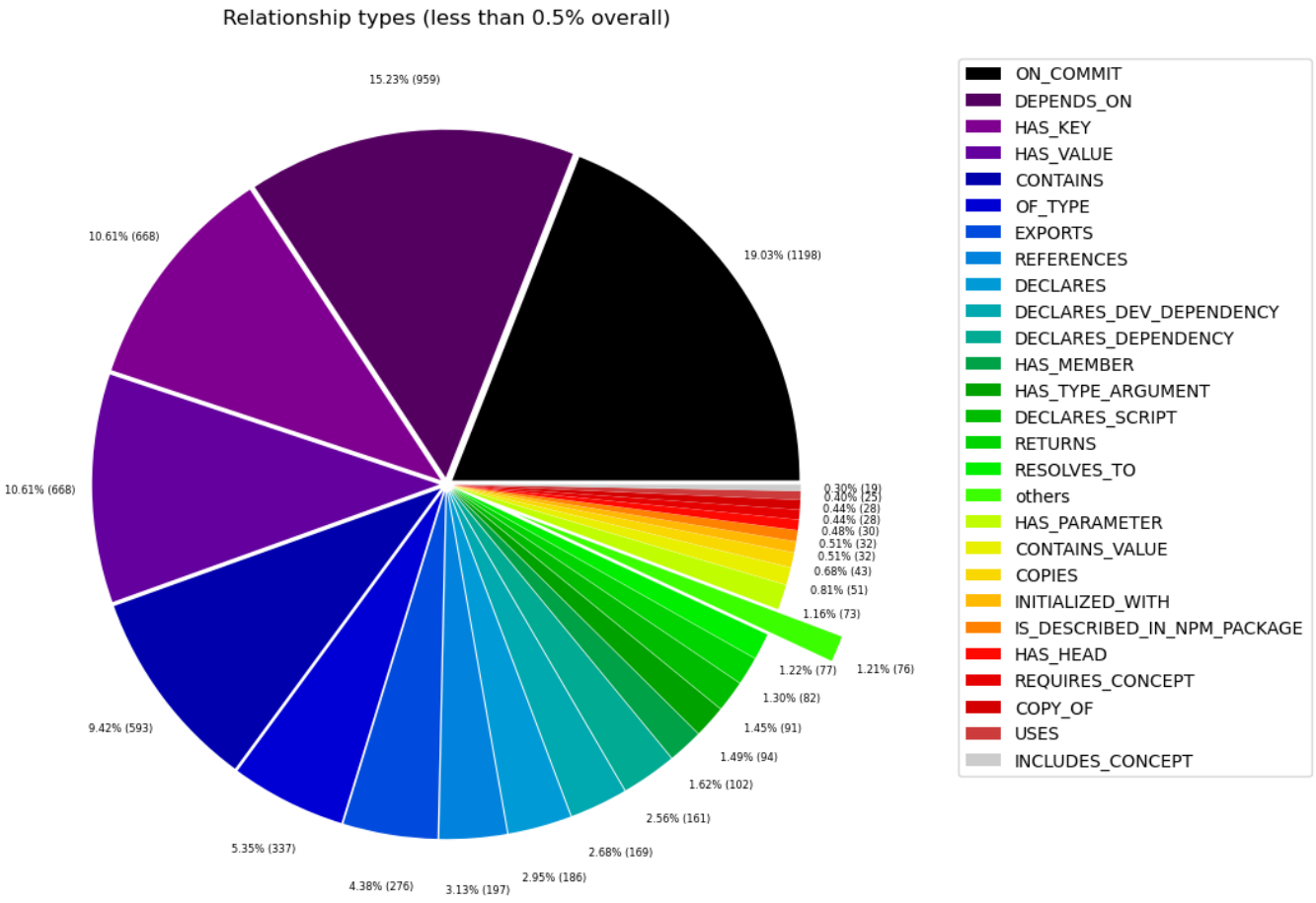
Lists the 30 relationships type with the lowest number of occurrences up to 0.5% of the total node count. This is essentially breaking down the "others" slice from the chart above.

	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	PROVIDED_BY_NPM_DEPENDENCY	1	0.000358
1	CONSTRAINED_BY	4	0.001431
2	REFERENCED_PROJECTS	5	0.001789
3	SIMILAR	6	0.002147
4	DECLARES_ENGINE	6	0.002147
5	EXTENDS	6	0.002147
6	HAS_ARGUMENT	6	0.002147
7	CALLS	6	0.002147
8	HAS_NPM_PACKAGE	6	0.002147
9	HAS_ROOT	6	0.002147
10	MEMBER	6	0.002147
11	PARENT	6	0.002147
12	HAS_CONFIG	6	0.002147
13	CONTAINS_PROJECT	6	0.002147
14	INCLUDES_CONCEPT	19	0.006797
15	USES	25	0.008944
16	REQUIRES_CONCEPT	28	0.010017
17	COPY_OF	28	0.010017
18	HAS_HEAD	30	0.010733
19	IS_DESCRIBED_IN_NPM_PACKAGE	32	0.011448
20	INITIALIZED_WITH	32	0.011448
21	COPIES	43	0.015384
22	CONTAINS_VALUE	51	0.018246
23	HAS_PARAMETER	73	0.026116
24	RESOLVES_TO	77	0.027547
25	RETURNS	82	0.029336
26	DECLARES_SCRIPT	91	0.032556
27	HAS_TYPE_ARGUMENT	94	0.033629
28	HAS_MEMBER	102	0.036491
29	DECLARES_DEPENDENCY	161	0.057599

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>
```



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, Commit]	CONTAINS_CHANGE	[Git, Change]	77935	10306	
1	[Git, Change]	MODIFIES	[File, Git]	77935	77935	
2	[Git, Change]	UPDATES	[File, Git]	51513	77935	
3	[Git, Change]	CREATES	[File, Git]	18526	77935	
4	[Git, Commit]	HAS_PARENT	[Git, Commit]	11337	10306	
5	[Git, Change]	DELETES	[File, Git]	10807	77935	
6	[Author, Git, Person]	COMMITTED	[Git, Commit]	10306	1192	
7	[Committer, Git, Person]	COMMITTED	[Git, Commit]	10306	371	
8	[Git, Change]	RENAMES	[File, Git]	2911	77935	
9	[File, Git]	HAS_NEW_NAME	[File, Git]	1647	5340	
10	[Git, Tag]	ON_COMMIT	[Git, Commit]	1198	1198	
11	[Json, Value, Object]	HAS_KEY	[Json, Key]	668	133	
12	[Json, Key]	HAS_VALUE	[Json, Value, Scalar]	552	668	
13	[TS, Function]	DEPENDS_ON	[TS, ExternalDeclaration]	285	47	
14	[TS, ExternalModule]	EXPORTS	[TS, ExternalDeclaration]	215	25	
15	[File, TS, Local, Module, Mark4ModuleWeaklyCon...	DEPENDS_ON	[TS, ExternalDeclaration]	192	2	
16	[Package, File, Json, NPM]	DECLARES_DEV_DEPENDENCY	[NPM, Dependency]	169	29	
17	[Package, File, Json, NPM]	DECLARES_DEPENDENCY	[NPM, Dependency]	161	29	
18	[Type, TS, Union]	CONTAINS	[Type, TS, Primitive]	147	119	
19	[Type, TS, Declared]	REFERENCES	[TS, ExternalDeclaration]	142	276	
20	[TS, Function]	DEPENDS_ON	[TS, ExternalModule]	131	47	
21	[Type, TS, Union]	CONTAINS	[Type, TS, Literal]	119	119	
22	[Json, Key]	HAS_VALUE	[Json, Value, Object]	104	668	
23	[Type, Object, TS]	HAS_MEMBER	[Type, TS, ObjectMember]	101	39	
24	[Package, File, Json, NPM]	DECLARES_SCRIPT	[NPM, Script]	91	29	
25	[Type, TS, Union]	CONTAINS	[Type, TS, Declared]	70	119	
26	[File, Directory]	CONTAINS	[File, Directory]	63	34	
27	[TS, Interface]	DECLARES	[TS, Property]	61	17	
28	[File, Directory]	CONTAINS	[Package, File, Json, NPM]	58	34	
29	[File, Git]	RESOLVES_TO	[Package, File, Json, NPM]	57	5340	

Graph Density

```
total_number_of_nodes (vertices): 99923
total_number_of_relationships (edges): 279518
-> total directed graph density: 2.799517570844556e-05
-> total directed graph density in percent: 0.002799517570844556
```