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]	77069	77.963238
1	[Git, Commit]	10255	10.373990
2	[File, Git]	5224	5.284615
3	[Author, Git, Person]	1190	1.203808
4	[Git, Tag]	1163	1.176494
5	[Json, Key]	668	0.675751
6	[Json, Value, Scalar]	603	0.609997
7	[Committer, Git, Person]	371	0.375305
8	[NPM, Dependency]	330	0.333829
9	[Type, TS, Primitive]	291	0.294376
10	[Type, TS, Declared]	276	0.279202
11	[TS, ExternalDeclaration]	215	0.217495
12	[Type, TS, Literal]	136	0.137578
13	[Json, Value, Object]	133	0.134543
14	[Type, TS, Union]	119	0.120381
15	[Type, TS, ObjectMember]	101	0.102172
16	[NPM, Script]	91	0.092056
17	[TS, Property]	65	0.065754
18	[TS, Function]	47	0.047545
19	[Type, TS, FunctionParameter]	40	0.040464
20	[Type, Object, TS]	39	0.039453
21	[File, Directory]	34	0.034395
22	[Type, TS, Function]	34	0.034395
23	[TS, Parameter]	33	0.033383
24	[Git, Branch]	30	0.030348
25	[Package, File, Json, NPM]	29	0.029336
26	[TS, ExternalModule]	25	0.025290
27	[TS, Variable]	24	0.024278
28	[Value, TS, Literal]	20	0.020232
29	[jQAssistant, Rule, Concept]	19	0.019220

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>
```

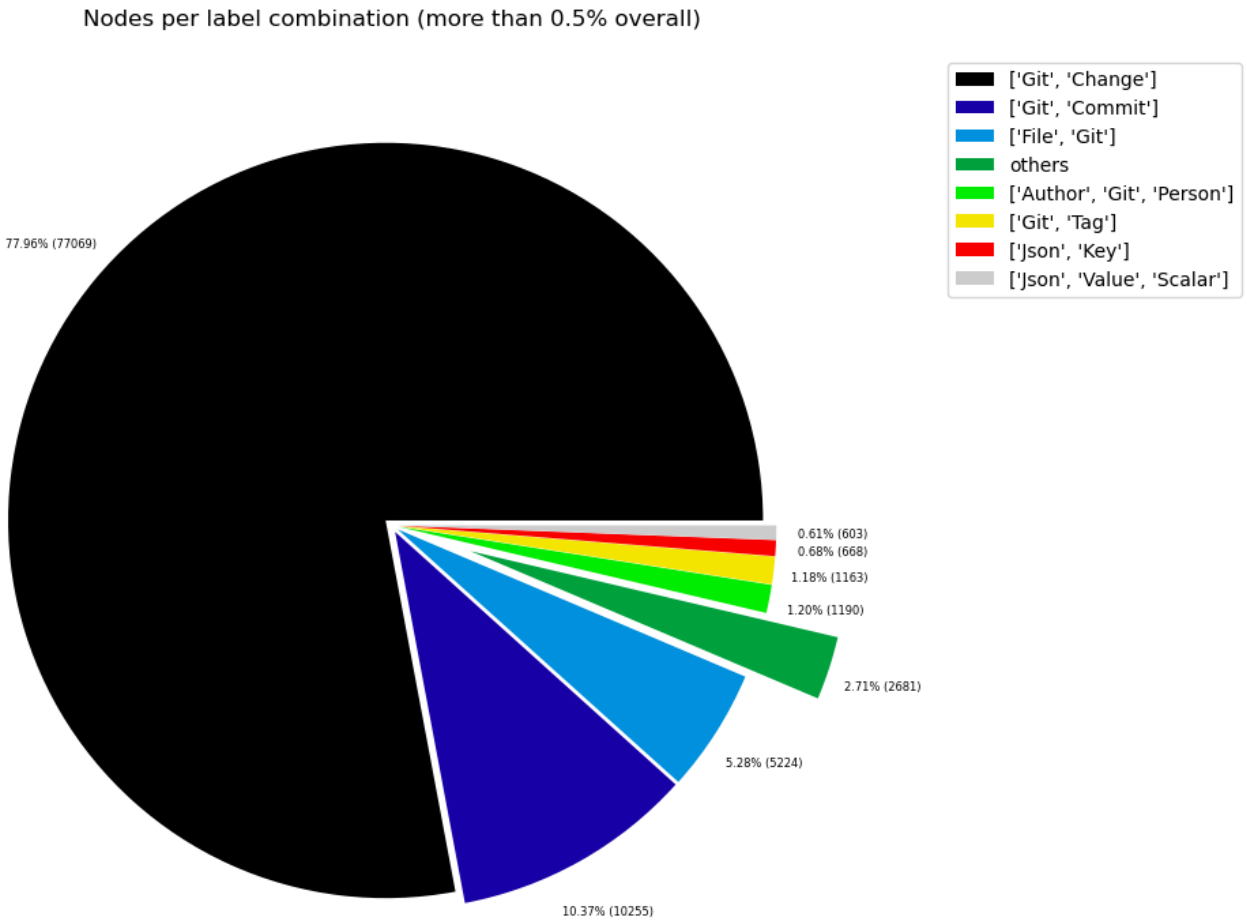


Table 1b - Lowest node count by label combination

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	0.001012
1	[File, TS, Scan]	1	0.001012
2	[TS, Method]	1	0.001012
3	[Value, TS, ObjectMember]	1	0.001012
4	[TS, Constructor]	1	0.001012
5	[TS, Class]	1	0.001012
6	[TS, Enum]	2	0.002023
7	[Value, Object, TS]	3	0.003035
8	[Type, TS, Tuple]	3	0.003035
9	[Value, TS, Function]	4	0.004046
10	[TS, TypeParameter]	4	0.004046
11	[Value, TS, Complex]	5	0.005058
12	[NPM, Engine]	6	0.006070
13	[Project, TS]	6	0.006070
14	[File, Local]	6	0.006070
15	[Value, TS, Call]	6	0.006070
16	[Value, TS, Member]	6	0.006070
17	[File, TS, Local, Module]	6	0.006070
18	[Type, TS, TypeParameterReference]	6	0.006070
19	[TS, EnumMember]	8	0.008093
20	[Type, TS, NotIdentified]	11	0.011128
21	[Json, Value, Array]	12	0.012139
22	[Value, TS, Declared]	13	0.013151
23	[TS, TypeAlias]	16	0.016186
24	[File, Directory, Local]	16	0.016186
25	[TS, Interface]	17	0.017197
26	[Type, TS, Intersection]	17	0.017197
27	[jQAssistant, Rule, Concept]	19	0.019220
28	[Value, TS, Literal]	20	0.020232
29	[TS, Variable]	24	0.024278

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>
```

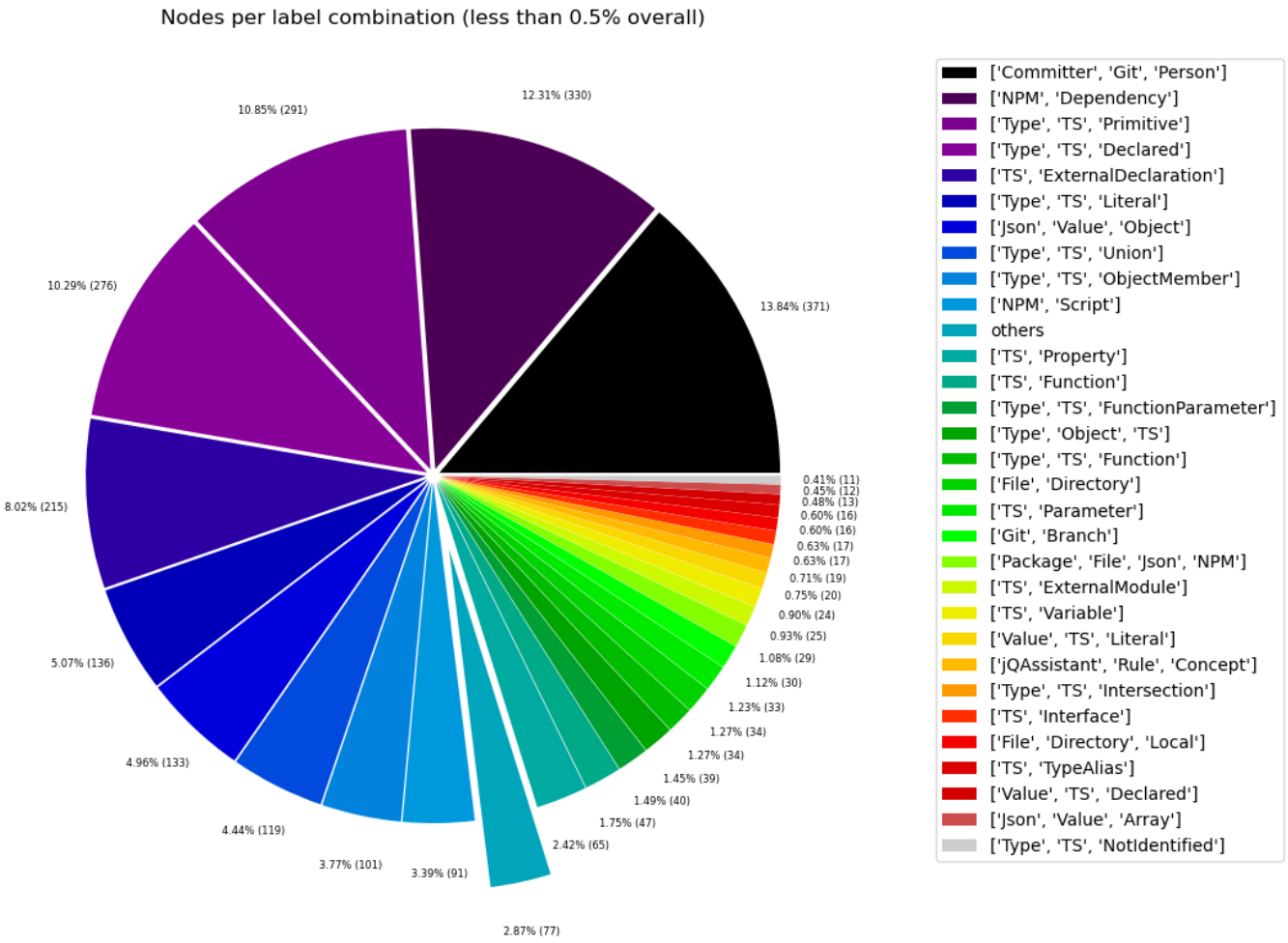


Table 1c - Highest node count by single label

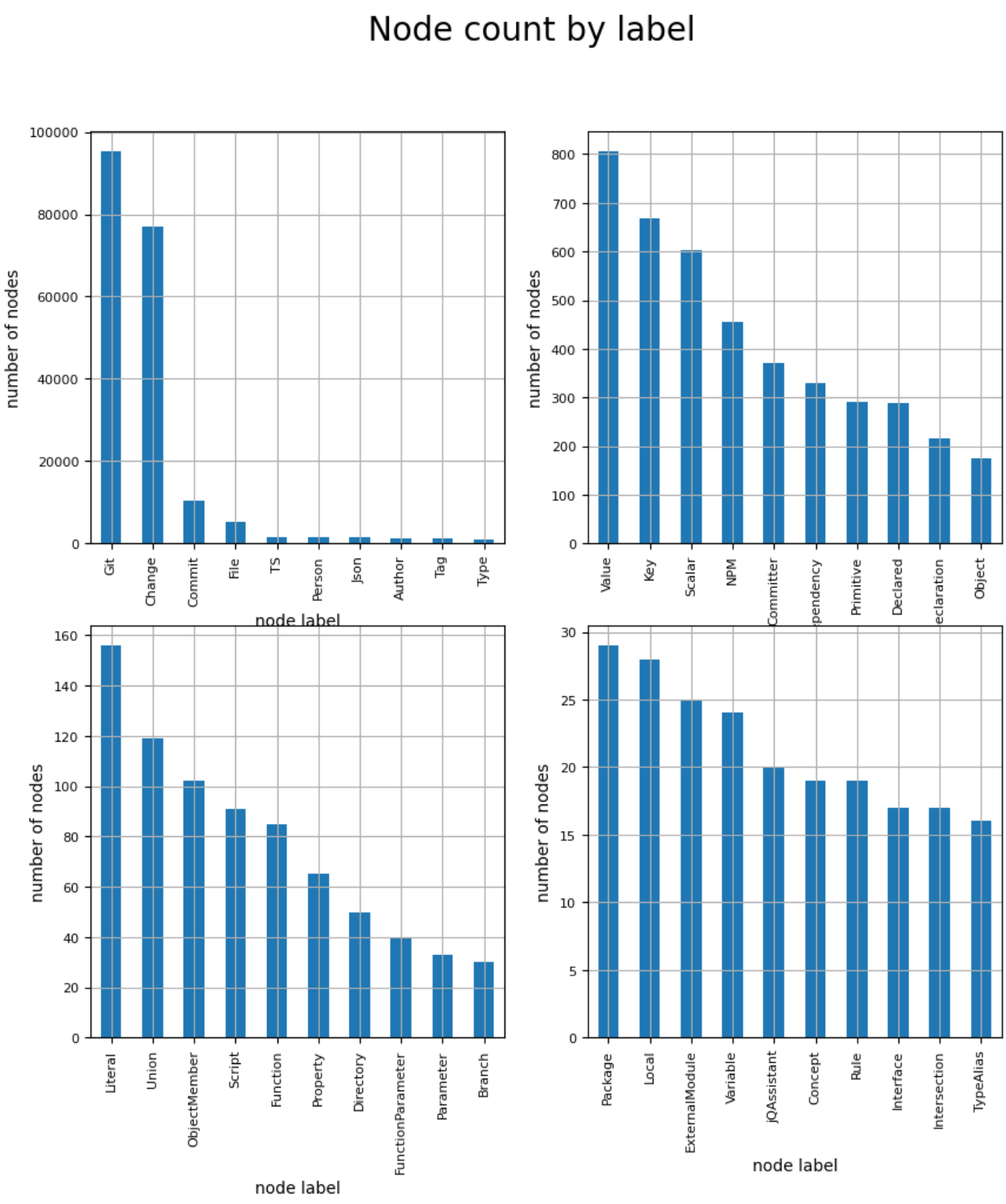
Lists the 40 labels with the highest number of nodes. Doesn't sum up to the total number of nodes or 100% because one node can have multiple labels. Helps to identify commonly used labels.

	nodeLabel	nodesWithThatLabel	nodesWithThatLabelPercent
0	Git	95302	96.407797
1	Change	77069	77.963238
2	Commit	10255	10.373990
3	File	5316	5.377682
4	TS	1603	1.621600
5	Person	1561	1.579112
6	Json	1445	1.461766
7	Author	1190	1.203808
8	Tag	1163	1.176494
9	Type	1073	1.085450
10	Value	806	0.815352
11	Key	668	0.675751
12	Scalar	603	0.609997
13	NPM	456	0.461291
14	Committer	371	0.375305
15	Dependency	330	0.333829
16	Primitive	291	0.294376
17	Declared	289	0.292353
18	ExternalDeclaration	215	0.217495
19	Object	175	0.177031
20	Literal	156	0.157810
21	Union	119	0.120381
22	ObjectMember	102	0.103184
23	Script	91	0.092056
24	Function	85	0.085986
25	Property	65	0.065754
26	Directory	50	0.050580
27	FunctionParameter	40	0.040464
28	Parameter	33	0.033383
29	Branch	30	0.030348
30	Package	29	0.029336
31	Local	28	0.028325
32	ExternalModule	25	0.025290
33	Variable	24	0.024278
34	jQAssistant	20	0.020232
35	Concept	19	0.019220
36	Rule	19	0.019220
37	Interface	17	0.017197
38	Intersection	17	0.017197
39	TypeAlias	16	0.016186

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: 276421
```

	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	CONTAINS_CHANGE	77069	27.881022
1	MODIFIES	77069	27.881022
2	UPDATES	51013	18.454821
3	COMMITTED	20510	7.419841
4	CREATES	18232	6.595736
5	HAS_PARENT	11283	4.081817
6	DELETES	10614	3.839795
7	RENAMES	2790	1.009330
8	HAS_NEW_NAME	1581	0.571954
9	ON_COMMIT	1163	0.420735
10	DEPENDS_ON	959	0.346935
11	HAS_KEY	668	0.241660
12	HAS_VALUE	668	0.241660
13	CONTAINS	593	0.214528
14	OF_TYPE	337	0.121915
15	EXPORTS	276	0.099848
16	REFERENCES	197	0.071268
17	DECLARES	186	0.067289
18	DECLARES_DEV_DEPENDENCY	169	0.061139
19	DECLARES_DEPENDENCY	161	0.058244
20	HAS_MEMBER	102	0.036900
21	HAS_TYPE_ARGUMENT	94	0.034006
22	DECLARES_SCRIPT	91	0.032921
23	RETURNS	82	0.029665
24	RESOLVES_TO	77	0.027856
25	HAS_PARAMETER	73	0.026409
26	CONTAINS_VALUE	51	0.018450
27	COPIES	43	0.015556
28	INITIALIZED_WITH	32	0.011577
29	IS_DESCRIBED_IN_NPM_PACKAGE	32	0.011577

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>
```

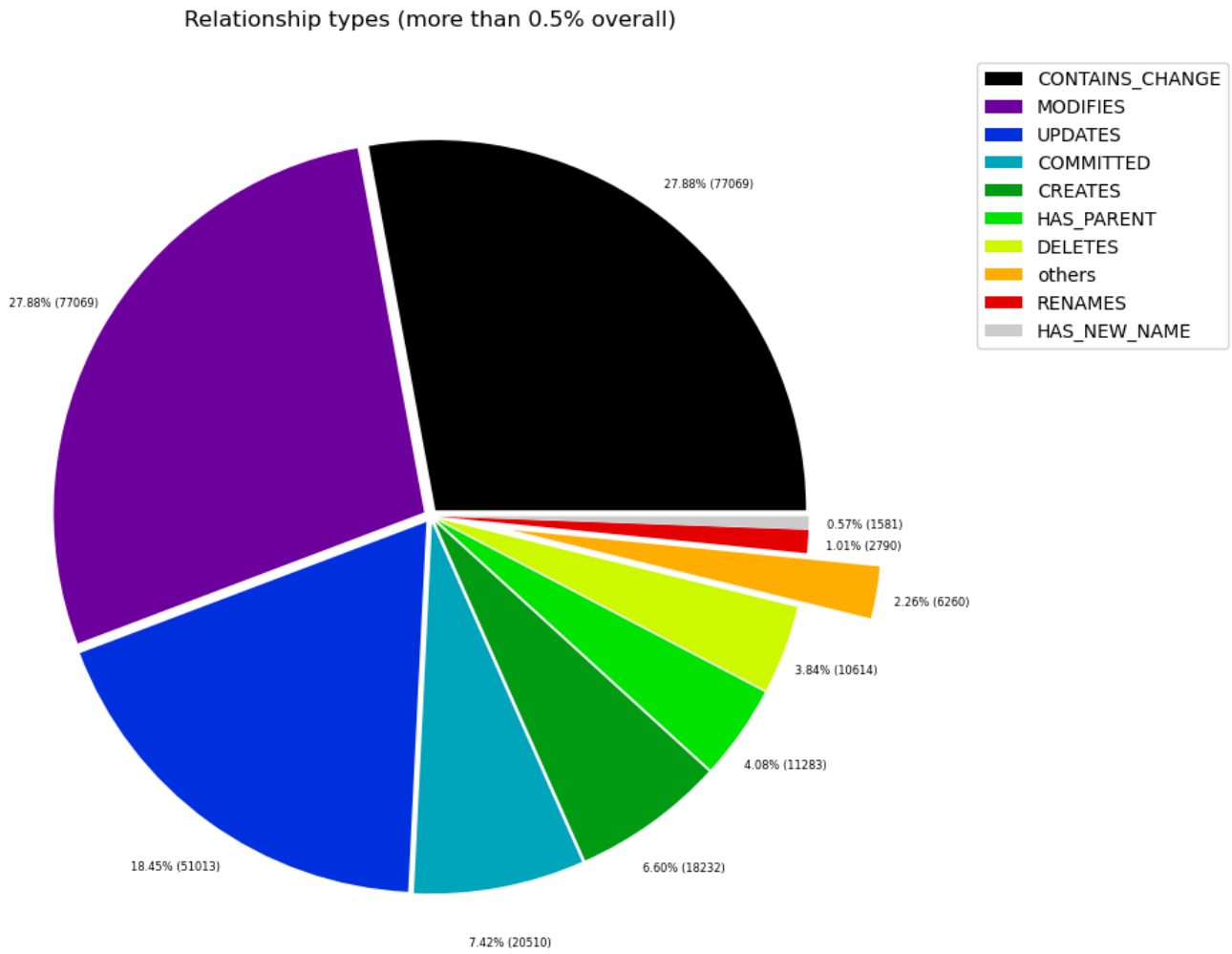


Table 2b - Lowest relationship count by type

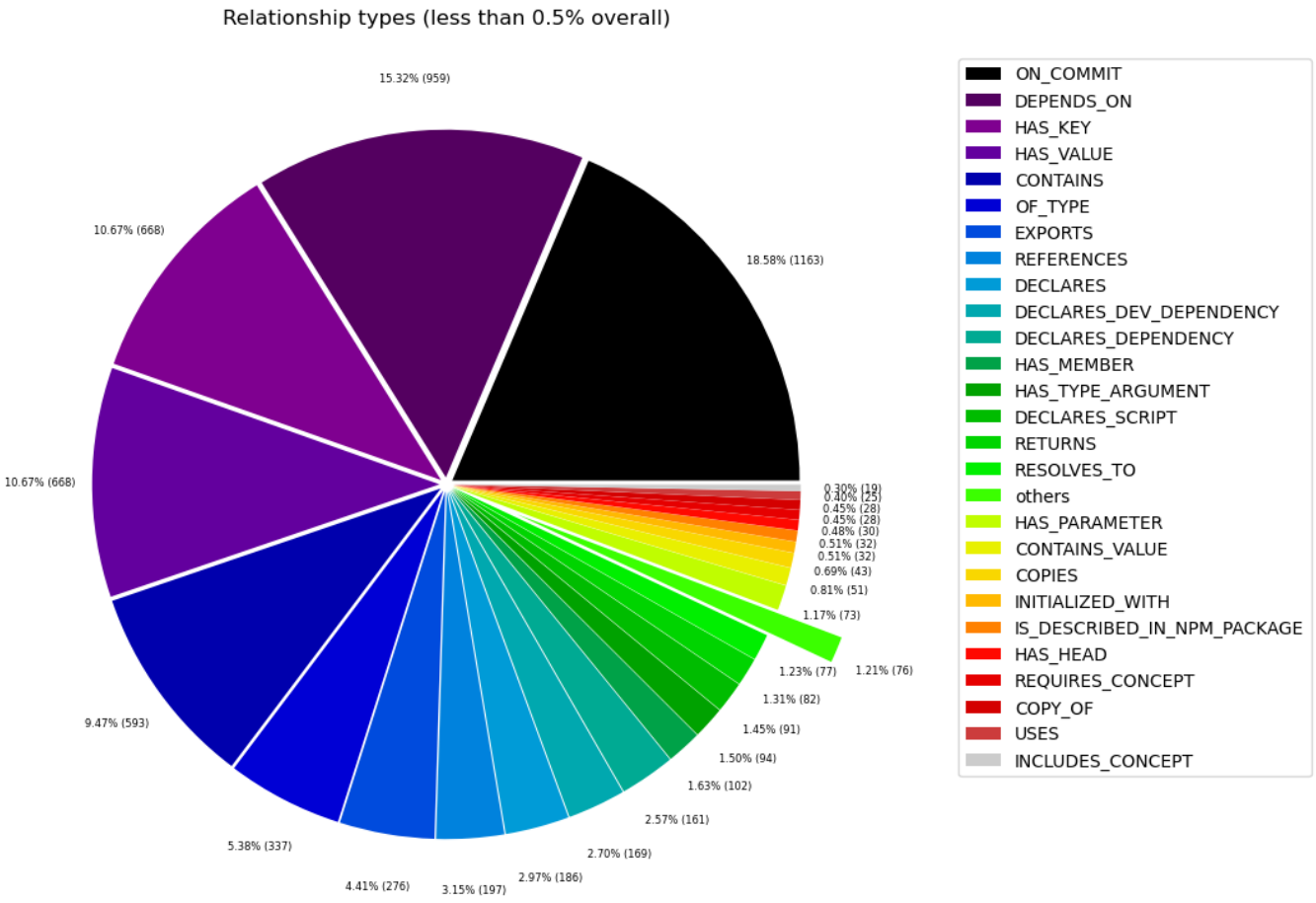
Lists the 30 relationships type with the lowest number of occurrences up to 0.5% of the total node count. This is essentially breaking down the "others" slice from the chart above.

	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	PROVIDED_BY_NPM_DEPENDENCY	1	0.000362
1	CONSTRAINED_BY	4	0.001447
2	REFERENCED_PROJECTS	5	0.001809
3	SIMILAR	6	0.002171
4	DECLARES_ENGINE	6	0.002171
5	EXTENDS	6	0.002171
6	HAS_ARGUMENT	6	0.002171
7	CALLS	6	0.002171
8	HAS_NPM_PACKAGE	6	0.002171
9	HAS_ROOT	6	0.002171
10	MEMBER	6	0.002171
11	PARENT	6	0.002171
12	HAS_CONFIG	6	0.002171
13	CONTAINS_PROJECT	6	0.002171
14	INCLUDES_CONCEPT	19	0.006874
15	USES	25	0.009044
16	REQUIRES_CONCEPT	28	0.010129
17	COPY_OF	28	0.010129
18	HAS_HEAD	30	0.010853
19	IS_DESCRIBED_IN_NPM_PACKAGE	32	0.011577
20	INITIALIZED_WITH	32	0.011577
21	COPIES	43	0.015556
22	CONTAINS_VALUE	51	0.018450
23	HAS_PARAMETER	73	0.026409
24	RESOLVES_TO	77	0.027856
25	RETURNS	82	0.029665
26	DECLARES_SCRIPT	91	0.032921
27	HAS_TYPE_ARGUMENT	94	0.034006
28	HAS_MEMBER	102	0.036900
29	DECLARES_DEPENDENCY	161	0.058244

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]	77069	10255	
1	[Git, Change]	MODIFIES	[File, Git]	77069	77069	
2	[Git, Change]	UPDATES	[File, Git]	51013	77069	
3	[Git, Change]	CREATES	[File, Git]	18232	77069	
4	[Git, Commit]	HAS_PARENT	[Git, Commit]	11283	10255	
5	[Git, Change]	DELETES	[File, Git]	10614	77069	
6	[Author, Git, Person]	COMMITTED	[Git, Commit]	10255	1190	
7	[Committer, Git, Person]	COMMITTED	[Git, Commit]	10255	371	
8	[Git, Change]	RENAMES	[File, Git]	2790	77069	
9	[File, Git]	HAS_NEW_NAME	[File, Git]	1581	5224	
10	[Git, Tag]	ON_COMMIT	[Git, Commit]	1163	1163	
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	5224	

Graph Density

```
total_number_of_nodes (vertices): 98853
total_number_of_relationships (edges): 276421
-> total directed graph density: 2.8287575064306702e-05
-> total directed graph density in percent: 0.0028287575064306703
```