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`.

```
Total number of nodes: 92746
```

	nodeLabels	nodesWithThatLabels	nodesWithThatLabelsPercent
0	[Git, Change]	71686	77.292821
1	[Git, Commit]	9839	10.608544
2	[File, Git]	5048	5.442822
3	[Author, Git, Person]	1181	1.273370
4	[Git, Tag]	1047	1.128890
5	[Json, Key]	668	0.720247
6	[Json, Value, Scalar]	603	0.650163
7	[Committer, Git, Person]	371	0.400017
8	[NPM, Dependency]	330	0.355810
9	[Type, TS, Primitive, ExternalType]	291	0.313760
10	[Type, TS, Declared, ExternalType]	286	0.308369
11	[TS, ExternalDeclaration]	211	0.227503
12	[Type, TS, Literal, ExternalType]	136	0.146637
13	[Json, Value, Object]	133	0.143402
14	[Type, TS, Union, ExternalType]	120	0.129386
15	[Type, TS, ObjectMember, ExternalType]	98	0.105665
16	[NPM, Script]	91	0.098117
17	[TS, Property]	65	0.070084
18	[TS, Function]	47	0.050676
19	[Type, Object, TS, ExternalType]	38	0.040972
20	[Type, TS, FunctionParameter, ExternalType]	38	0.040972
21	[File, Directory]	34	0.036659
22	[TS, Parameter]	33	0.035581
23	[Type, TS, Function, ExternalType]	33	0.035581
24	[Package, File, Json, NPM]	29	0.031268
25	[TS, ExternalModule]	25	0.026955
26	[TS, Variable]	24	0.025877
27	[Git, Branch]	24	0.025877
28	[Value, TS, Literal]	20	0.021564
29	[jQAssistant, Rule, Concept]	19	0.020486

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>
```

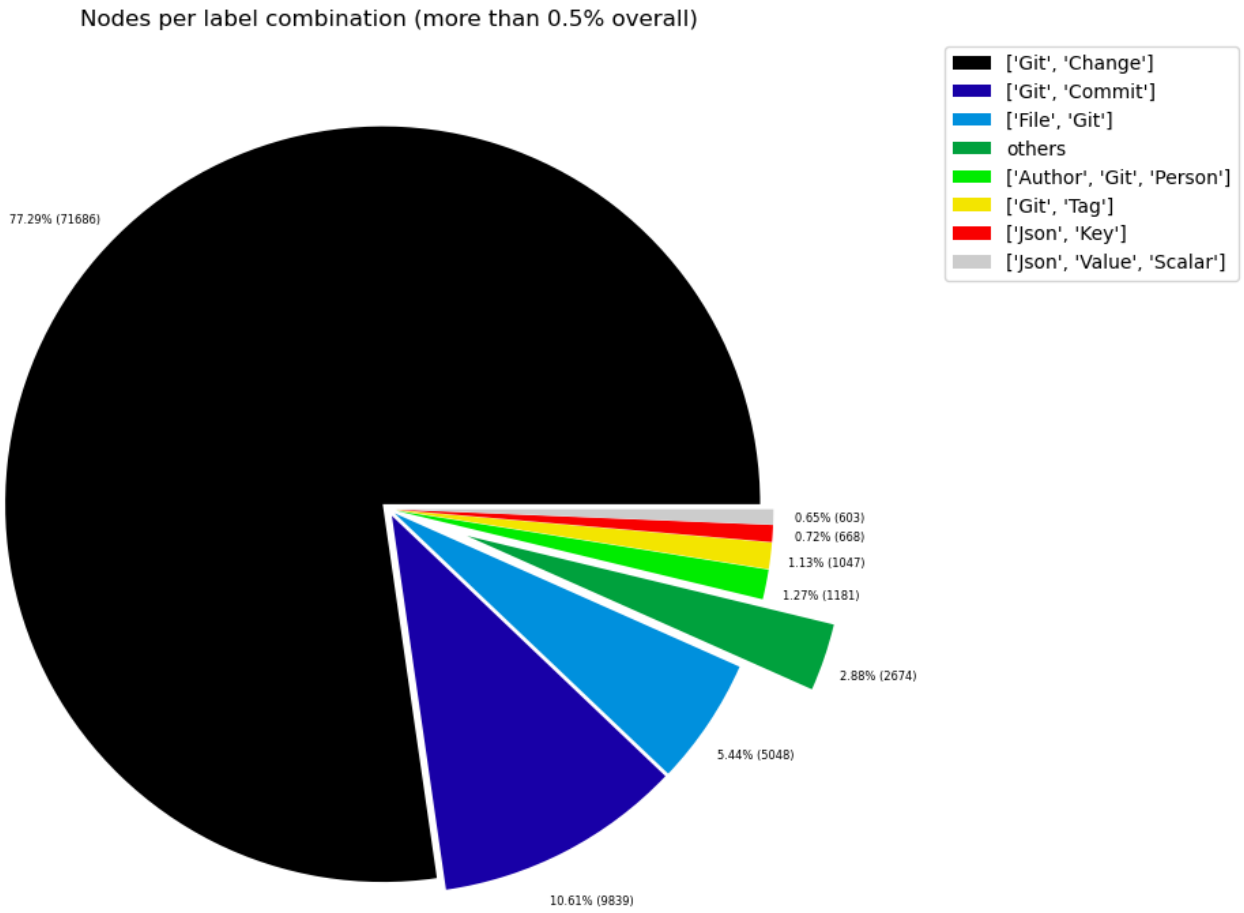


Table 1b - Lowest node count by label combination

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	0.001078
1	[File, TS, Scan]	1	0.001078
2	[TS, Method]	1	0.001078
3	[Value, TS, ObjectMember]	1	0.001078
4	[TS, Constructor]	1	0.001078
5	[TS, Class]	1	0.001078
6	[TS, Enum]	2	0.002156
7	[Value, Object, TS]	3	0.003235
8	[Type, TS, Tuple, ExternalType]	3	0.003235
9	[Value, TS, Function]	4	0.004313
10	[TS, TypeParameter]	4	0.004313
11	[Value, TS, Complex]	5	0.005391
12	[NPM, Engine]	6	0.006469
13	[Project, TS]	6	0.006469
14	[File, Local]	6	0.006469
15	[Value, TS, Call]	6	0.006469
16	[Value, TS, Member]	6	0.006469
17	[File, TS, Local, Module]	6	0.006469
18	[Type, TS, TypeParameterReference, ExternalType]	6	0.006469
19	[TS, EnumMember]	8	0.008626
20	[Type, TS, NotIdentified, ExternalType]	11	0.011860
21	[Json, Value, Array]	12	0.012939
22	[Value, TS, Declared]	13	0.014017
23	[TS, TypeAlias]	14	0.015095
24	[File, Directory, Local]	16	0.017251
25	[Type, TS, Intersection, ExternalType]	17	0.018330
26	[TS, Interface]	18	0.019408
27	[jQAssistant, Rule, Concept]	19	0.020486
28	[Value, TS, Literal]	20	0.021564
29	[TS, Variable]	24	0.025877

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>
```

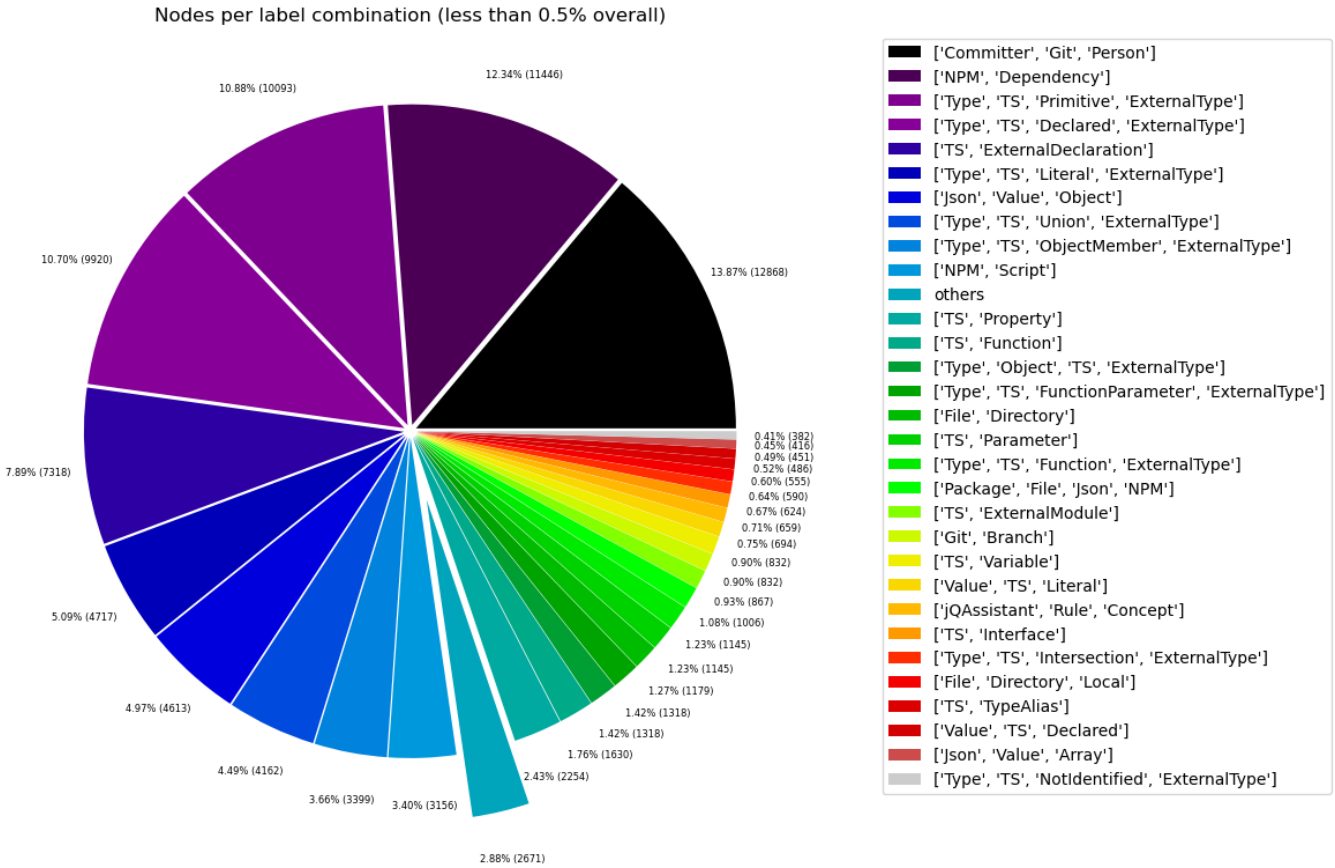


Table 1c - Highest node count by single label

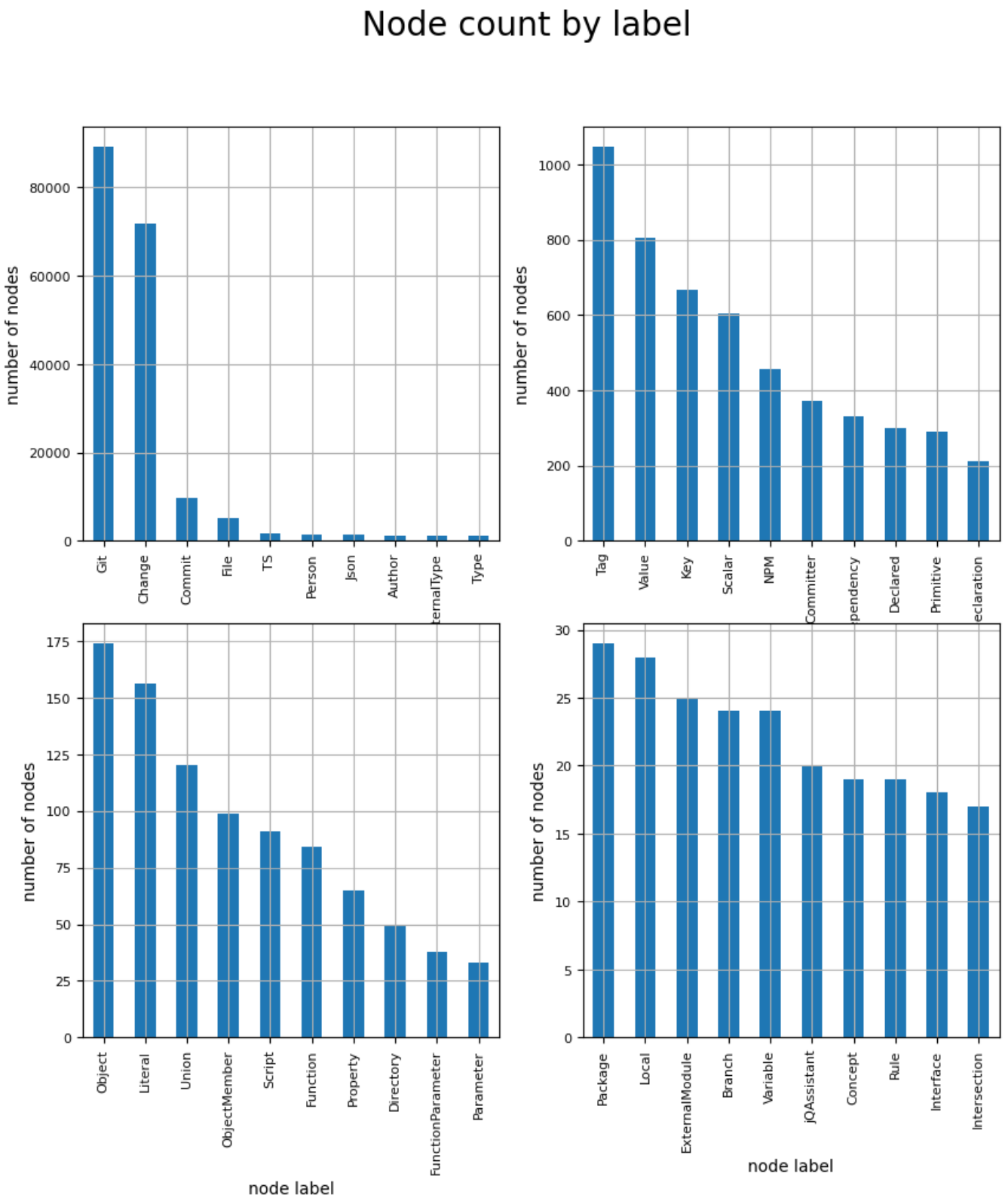
Lists the 40 labels with the highest number of nodes. Doesn't sum up to the total number of nodes or 100% because one node can have multiple labels. Helps to identify commonly used labels.

	nodeLabel	nodesWithThatLabel	nodesWithThatLabelPercent
0	Git	89196	96.172342
1	Change	71686	77.292821
2	Commit	9839	10.608544
3	File	5140	5.542018
4	TS	1602	1.727298
5	Person	1552	1.673388
6	Json	1445	1.558019
7	Author	1181	1.273370
8	ExternalType	1077	1.161236
9	Type	1077	1.161236
10	Tag	1047	1.128890
11	Value	806	0.869040
12	Key	668	0.720247
13	Scalar	603	0.650163
14	NPM	456	0.491665
15	Committer	371	0.400017
16	Dependency	330	0.355810
17	Declared	299	0.322386
18	Primitive	291	0.313760
19	ExternalDeclaration	211	0.227503
20	Object	174	0.187609
21	Literal	156	0.168201
22	Union	120	0.129386
23	ObjectMember	99	0.106743
24	Script	91	0.098117
25	Function	84	0.090570
26	Property	65	0.070084
27	Directory	50	0.053911
28	FunctionParameter	38	0.040972
29	Parameter	33	0.035581
30	Package	29	0.031268
31	Local	28	0.030190
32	ExternalModule	25	0.026955
33	Branch	24	0.025877
34	Variable	24	0.025877
35	jQAssistant	20	0.021564
36	Concept	19	0.020486
37	Rule	19	0.020486
38	Interface	18	0.019408
39	Intersection	17	0.018330

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: 258607
```

	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	CONTAINS_CHANGE	71686	27.720054
1	MODIFIES	71686	27.720054
2	UPDATES	47839	18.498726
3	COMMITTED	19678	7.609229
4	CREATES	16663	6.443368
5	HAS_PARENT	10834	4.189368
6	DELETES	9889	3.823949
7	RENAMES	2705	1.045989
8	HAS_NEW_NAME	1543	0.596658
9	ON_COMMIT	1047	0.404861
10	DEPENDS_ON	953	0.368513
11	HAS_KEY	668	0.258307
12	HAS_VALUE	668	0.258307
13	CONTAINS	604	0.233559
14	OF_TYPE	330	0.127607
15	EXPORTS	271	0.104792
16	REFERENCES	198	0.076564
17	DECLARES	185	0.071537
18	DECLARES_DEV_DEPENDENCY	169	0.065350
19	DECLARES_DEPENDENCY	161	0.062257
20	HAS_MEMBER	99	0.038282
21	HAS_TYPE_ARGUMENT	99	0.038282
22	DECLARES_SCRIPT	91	0.035189
23	RETURNS	81	0.031322
24	RESOLVES_TO	80	0.030935
25	HAS_PARAMETER	71	0.027455
26	CONTAINS_VALUE	51	0.019721
27	INITIALIZED_WITH	32	0.012374
28	COPIES	29	0.011214
29	REQUIRES_CONCEPT	28	0.010827

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>
```

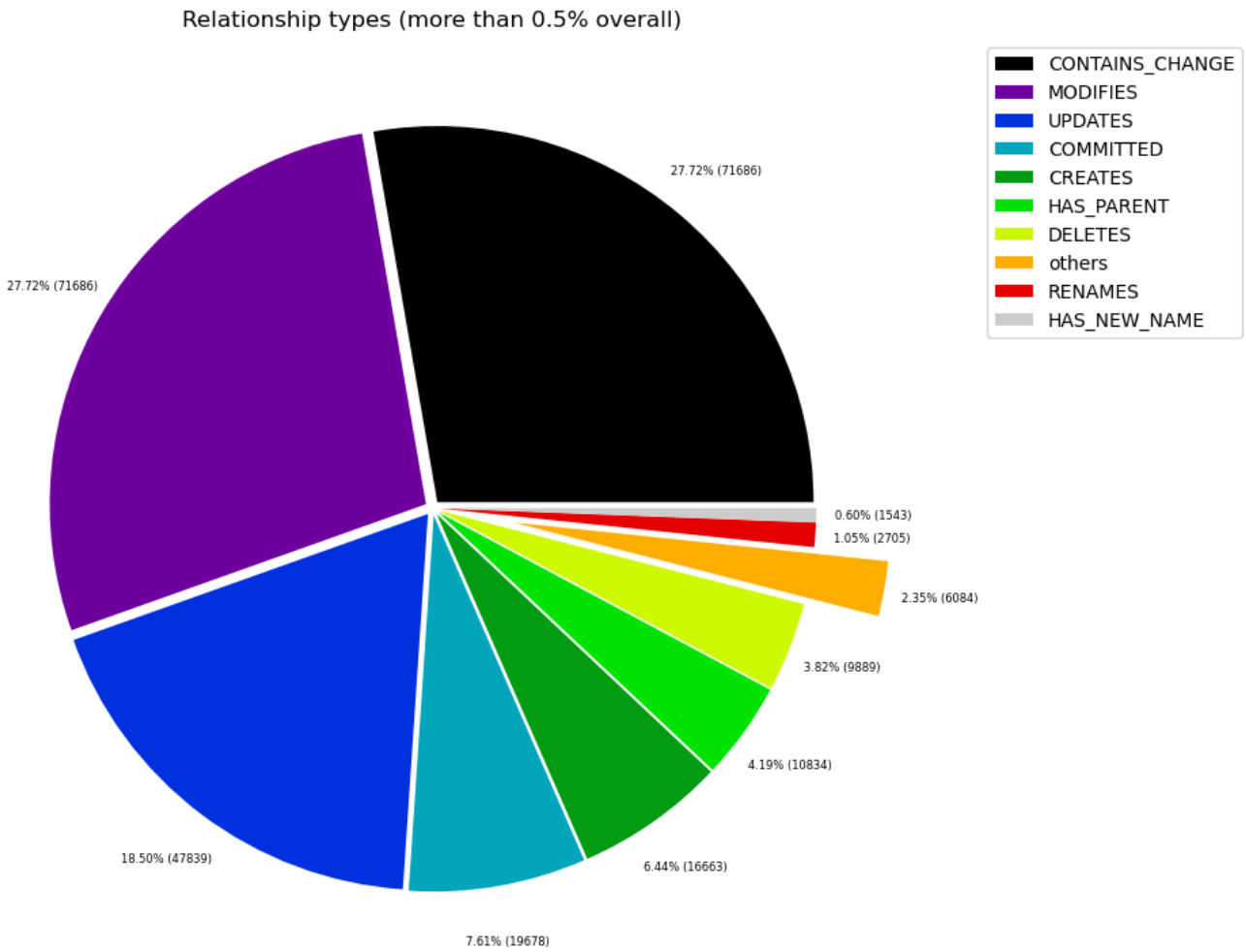


Table 2b - Lowest relationship count by type

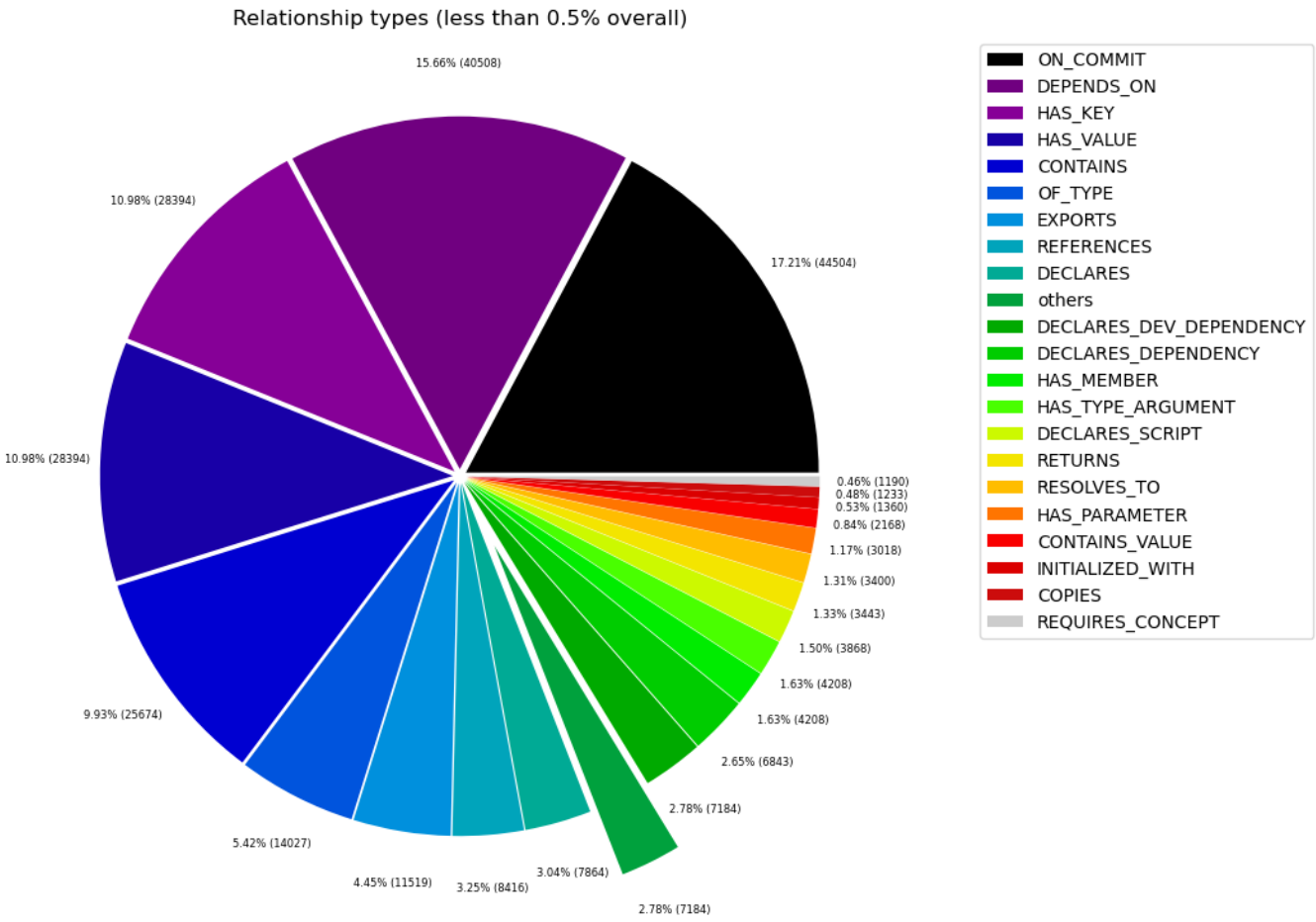
Lists the 30 relationships type with the lowest number of occurrences up to 0.5% of the total node count. This is essentially breaking down the "others" slice from the chart above.

	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	CONSTRAINED_BY	4	0.001547
1	REFERENCED_PROJECTS	5	0.001933
2	MEMBER	6	0.002320
3	HAS_ROOT	6	0.002320
4	HAS_NPM_PACKAGE	6	0.002320
5	HAS_CONFIG	6	0.002320
6	HAS_ARGUMENT	6	0.002320
7	DECLARES_ENGINE	6	0.002320
8	CONTAINS_PROJECT	6	0.002320
9	CALLS	6	0.002320
10	PARENT	6	0.002320
11	EXTENDS	7	0.002707
12	SIMILAR	10	0.003867
13	INCLUDES_CONCEPT	19	0.007347
14	COPY_OF	21	0.008120
15	HAS_HEAD	24	0.009280
16	USES	25	0.009667
17	REQUIRES_CONCEPT	28	0.010827
18	COPIES	29	0.011214
19	INITIALIZED_WITH	32	0.012374
20	CONTAINS_VALUE	51	0.019721
21	HAS_PARAMETER	71	0.027455
22	RESOLVES_TO	80	0.030935
23	RETURNS	81	0.031322
24	DECLARES_SCRIPT	91	0.035189
25	HAS_TYPE_ARGUMENT	99	0.038282
26	HAS_MEMBER	99	0.038282
27	DECLARES_DEPENDENCY	161	0.062257
28	DECLARES_DEV_DEPENDENCY	169	0.065350
29	DECLARES	185	0.071537

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]	71686	9839	
1	[Git, Change]	MODIFIES	[File, Git]	71686	71686	
2	[Git, Change]	UPDATES	[File, Git]	47839	71686	
3	[Git, Change]	CREATES	[File, Git]	16663	71686	
4	[Git, Commit]	HAS_PARENT	[Git, Commit]	10834	9839	
5	[Git, Change]	DELETES	[File, Git]	9889	71686	
6	[Author, Git, Person]	COMMITTED	[Git, Commit]	9839	1181	
7	[Committer, Git, Person]	COMMITTED	[Git, Commit]	9839	371	
8	[Git, Change]	RENAMES	[File, Git]	2705	71686	
9	[File, Git]	HAS_NEW_NAME	[File, Git]	1543	5048	
10	[Git, Tag]	ON_COMMIT	[Git, Commit]	1047	1047	
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]	280	47	
14	[TS, ExternalModule]	EXPORTS	[TS, ExternalDeclaration]	211	25	
15	[File, TS, Local, Module, Mark4ModuleWeaklyCon...	DEPENDS_ON	[TS, ExternalDeclaration]	188	3	
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, ExternalType]	CONTAINS	[Type, TS, Primitive, ExternalType]	149	120	
19	[Type, TS, Declared, ExternalType]	REFERENCES	[TS, ExternalDeclaration]	139	286	
20	[TS, Function]	DEPENDS_ON	[TS, ExternalModule]	129	47	
21	[Type, TS, Union, ExternalType]	CONTAINS	[Type, TS, Literal, ExternalType]	119	120	
22	[Json, Key]	HAS_VALUE	[Json, Value, Object]	104	668	
23	[Type, Object, TS, ExternalType]	HAS_MEMBER	[Type, TS, ObjectMember, ExternalType]	98	38	
24	[Package, File, Json, NPM]	DECLARES_SCRIPT	[NPM, Script]	91	29	
25	[Type, TS, Union, ExternalType]	CONTAINS	[Type, TS, Declared, ExternalType]	78	120	
26	[File, Directory]	CONTAINS	[File, Directory]	63	34	
27	[TS, Interface]	DECLARES	[TS, Property]	61	18	
28	[File, Directory]	CONTAINS	[Package, File, Json, NPM]	58	34	
29	[File, Git]	RESOLVES_TO	[Package, File, Json, NPM]	57	5048	

Graph Density

```
total_number_of_nodes (vertices): 92746
total_number_of_relationships (edges): 258607
-> total directed graph density: 3.0064541324120514e-05
-> total directed graph density in percent: 0.0030064541324120514
```