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: 92871
```

	nodeLabels	nodesWithThatLabels	nodesWithThatLabelsPercent
0	[Git, Change]	71785	77.295388
1	[Git, Commit]	9853	10.609340
2	[File, Git]	5051	5.438727
3	[Author, Git, Person]	1182	1.272733
4	[Git, Tag]	1049	1.129524
5	[Json, Key]	668	0.719277
6	[Json, Value, Scalar]	603	0.649288
7	[Committer, Git, Person]	371	0.399479
8	[NPM, Dependency]	330	0.355332
9	[Type, TS, Primitive, ExternalType]	291	0.313338
10	[Type, TS, Declared, ExternalType]	286	0.307954
11	[TS, ExternalDeclaration]	215	0.231504
12	[Type, TS, Literal, ExternalType]	136	0.146440
13	[Json, Value, Object]	133	0.143209
14	[Type, TS, Union, ExternalType]	120	0.129211
15	[Type, TS, ObjectMember, ExternalType]	98	0.105523
16	[NPM, Script]	91	0.097985
17	[TS, Property]	65	0.069990
18	[TS, Function]	47	0.050608
19	[Type, Object, TS, ExternalType]	38	0.040917
20	[Type, TS, FunctionParameter, ExternalType]	38	0.040917
21	[File, Directory]	34	0.036610
22	[TS, Parameter]	33	0.035533
23	[Type, TS, Function, ExternalType]	33	0.035533
24	[Package, File, Json, NPM]	29	0.031226
25	[Git, Branch]	26	0.027996
26	[TS, ExternalModule]	25	0.026919
27	[TS, Variable]	24	0.025842
28	[Value, TS, Literal]	20	0.021535
29	[jQAssistant, Rule, Concept]	19	0.020458

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>
```

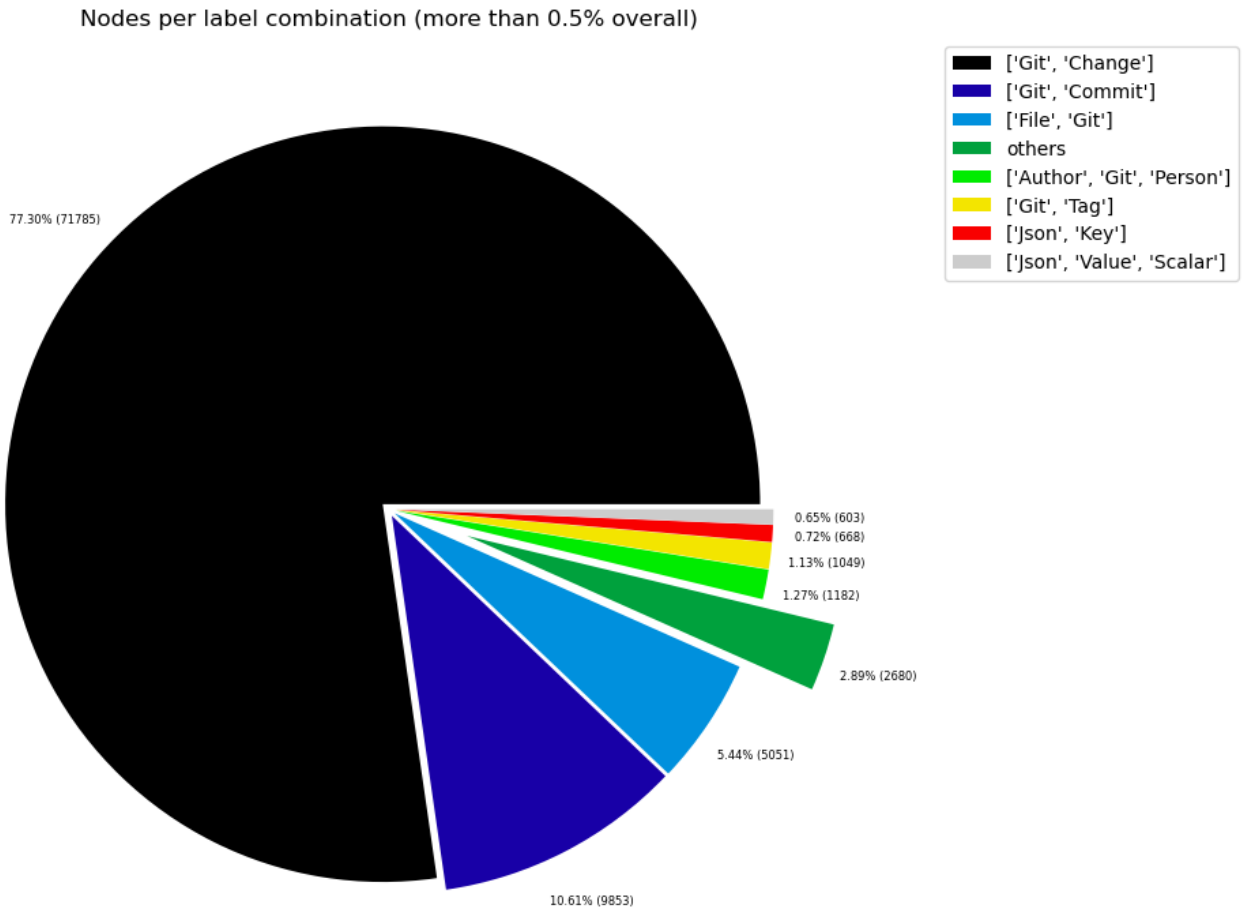


Table 1b - Lowest node count by label combination

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	0.001077
1	[File, TS, Scan]	1	0.001077
2	[TS, Method]	1	0.001077
3	[Value, TS, ObjectMember]	1	0.001077
4	[TS, Constructor]	1	0.001077
5	[TS, Class]	1	0.001077
6	[TS, Enum]	2	0.002154
7	[Value, Object, TS]	3	0.003230
8	[Type, TS, Tuple, ExternalType]	3	0.003230
9	[Value, TS, Function]	4	0.004307
10	[TS, TypeParameter]	4	0.004307
11	[Value, TS, Complex]	5	0.005384
12	[NPM, Engine]	6	0.006461
13	[Project, TS]	6	0.006461
14	[File, Local]	6	0.006461
15	[Value, TS, Call]	6	0.006461
16	[Value, TS, Member]	6	0.006461
17	[File, TS, Local, Module]	6	0.006461
18	[Type, TS, TypeParameterReference, ExternalType]	6	0.006461
19	[TS, EnumMember]	8	0.008614
20	[Type, TS, NotIdentified, ExternalType]	11	0.011844
21	[Json, Value, Array]	12	0.012921
22	[Value, TS, Declared]	13	0.013998
23	[TS, TypeAlias]	14	0.015075
24	[File, Directory, Local]	16	0.017228
25	[Type, TS, Intersection, ExternalType]	17	0.018305
26	[TS, Interface]	18	0.019382
27	[jQAssistant, Rule, Concept]	19	0.020458
28	[Value, TS, Literal]	20	0.021535
29	[TS, Variable]	24	0.025842

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>
```

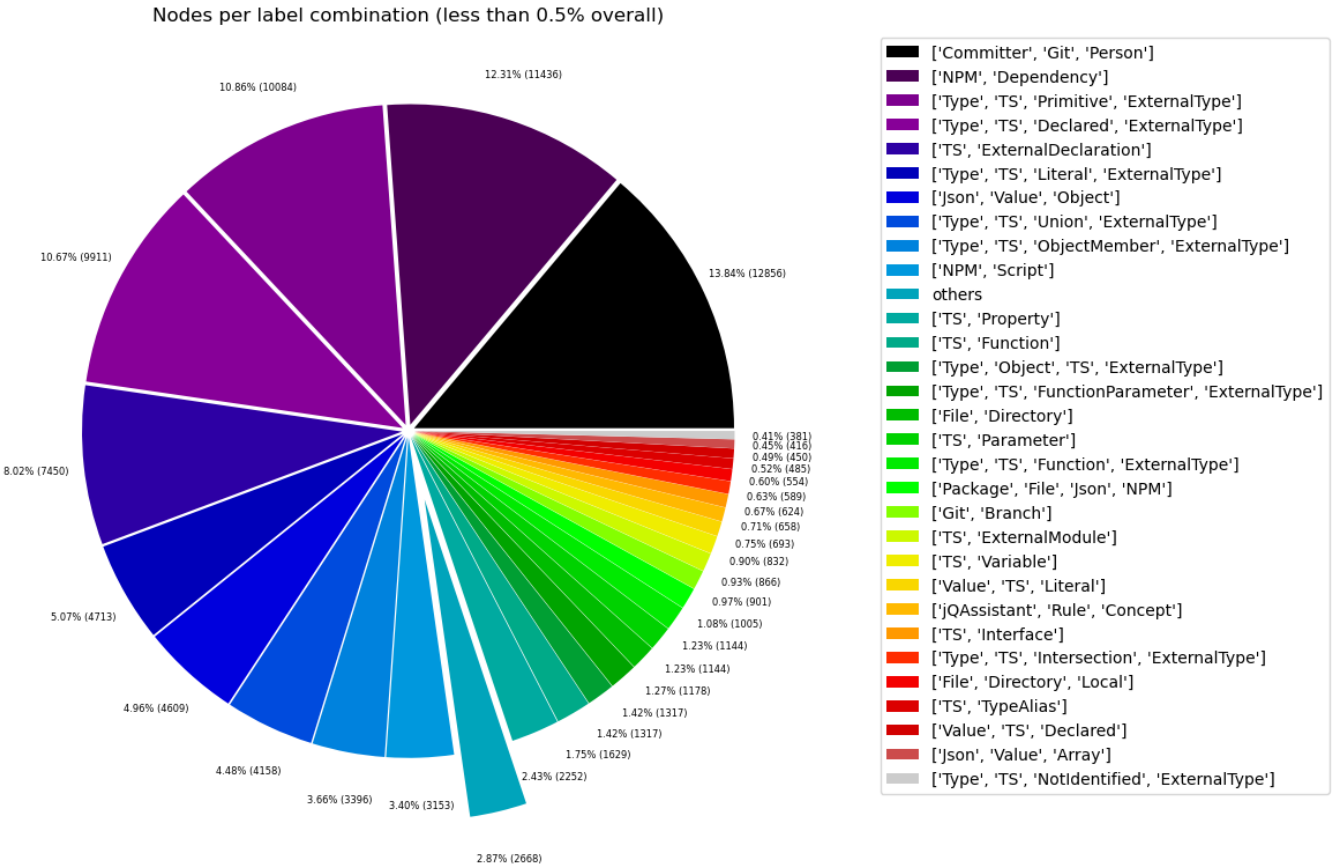


Table 1c - Highest node count by single label

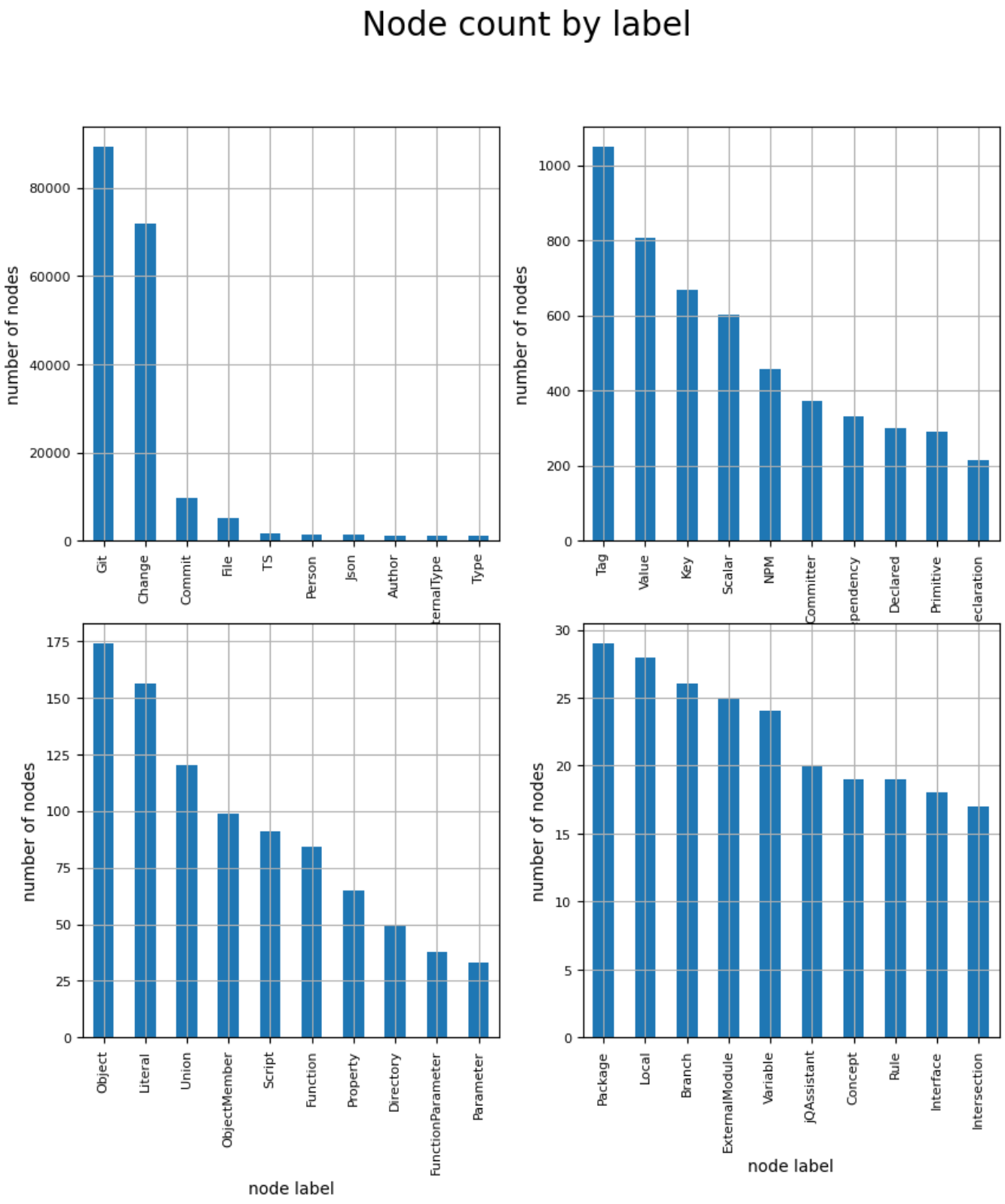
Lists the 40 labels with the highest number of nodes. Doesn't sum up to the total number of nodes or 100% because one node can have multiple labels. Helps to identify commonly used labels.

	nodeLabel	nodesWithThatLabel	nodesWithThatLabelPercent
0	Git	89317	96.173186
1	Change	71785	77.295388
2	Commit	9853	10.609340
3	File	5143	5.537789
4	TS	1606	1.729280
5	Person	1553	1.672212
6	Json	1445	1.555922
7	Author	1182	1.272733
8	ExternalType	1077	1.159673
9	Type	1077	1.159673
10	Tag	1049	1.129524
11	Value	806	0.867870
12	Key	668	0.719277
13	Scalar	603	0.649288
14	NPM	456	0.491004
15	Committer	371	0.399479
16	Dependency	330	0.355332
17	Declared	299	0.321952
18	Primitive	291	0.313338
19	ExternalDeclaration	215	0.231504
20	Object	174	0.187357
21	Literal	156	0.167975
22	Union	120	0.129211
23	ObjectMember	99	0.106599
24	Script	91	0.097985
25	Function	84	0.090448
26	Property	65	0.069990
27	Directory	50	0.053838
28	FunctionParameter	38	0.040917
29	Parameter	33	0.035533
30	Package	29	0.031226
31	Local	28	0.030149
32	Branch	26	0.027996
33	ExternalModule	25	0.026919
34	Variable	24	0.025842
35	jQAssistant	20	0.021535
36	Concept	19	0.020458
37	Rule	19	0.020458
38	Interface	18	0.019382
39	Intersection	17	0.018305

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: 258969
```

	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	CONTAINS_CHANGE	71785	27.719534
1	MODIFIES	71785	27.719534
2	UPDATES	47927	18.506848
3	COMMITTED	19706	7.609405
4	CREATES	16672	6.437836
5	HAS_PARENT	10849	4.189305
6	DELETES	9892	3.819762
7	RENAMES	2706	1.044913
8	HAS_NEW_NAME	1543	0.595824
9	ON_COMMIT	1049	0.405068
10	DEPENDS_ON	965	0.372631
11	HAS_KEY	668	0.257946
12	HAS_VALUE	668	0.257946
13	CONTAINS	604	0.233233
14	OF_TYPE	330	0.127428
15	EXPORTS	275	0.106190
16	REFERENCES	198	0.076457
17	DECLARES	185	0.071437
18	DECLARES_DEV_DEPENDENCY	169	0.065259
19	DECLARES_DEPENDENCY	161	0.062170
20	HAS_MEMBER	99	0.038229
21	HAS_TYPE_ARGUMENT	99	0.038229
22	DECLARES_SCRIPT	91	0.035139
23	RETURNS	81	0.031278
24	RESOLVES_TO	80	0.030892
25	HAS_PARAMETER	71	0.027416
26	CONTAINS_VALUE	51	0.019693
27	INITIALIZED_WITH	32	0.012357
28	COPIES	29	0.011198
29	REQUIRES_CONCEPT	28	0.010812

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>
```

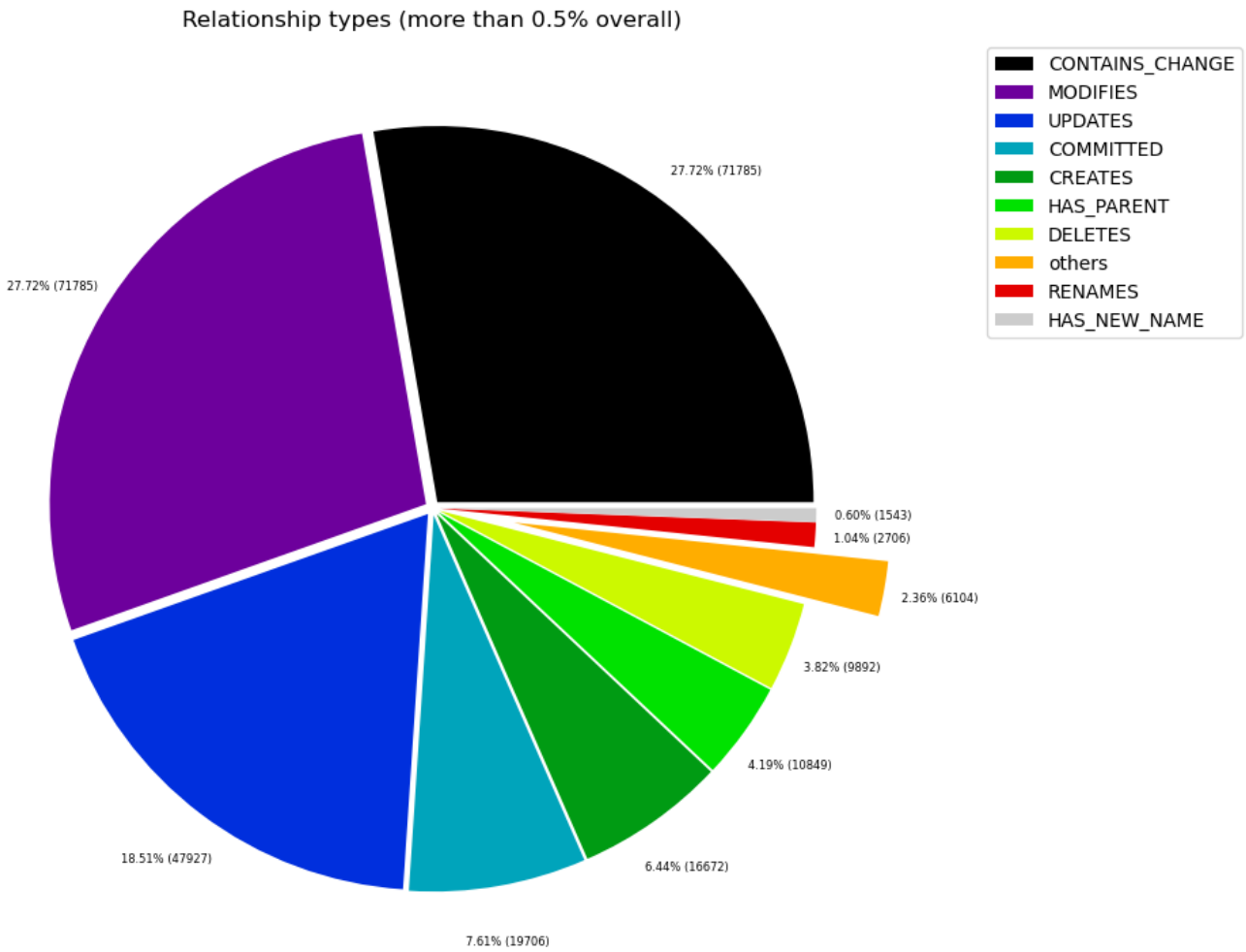


Table 2b - Lowest relationship count by type

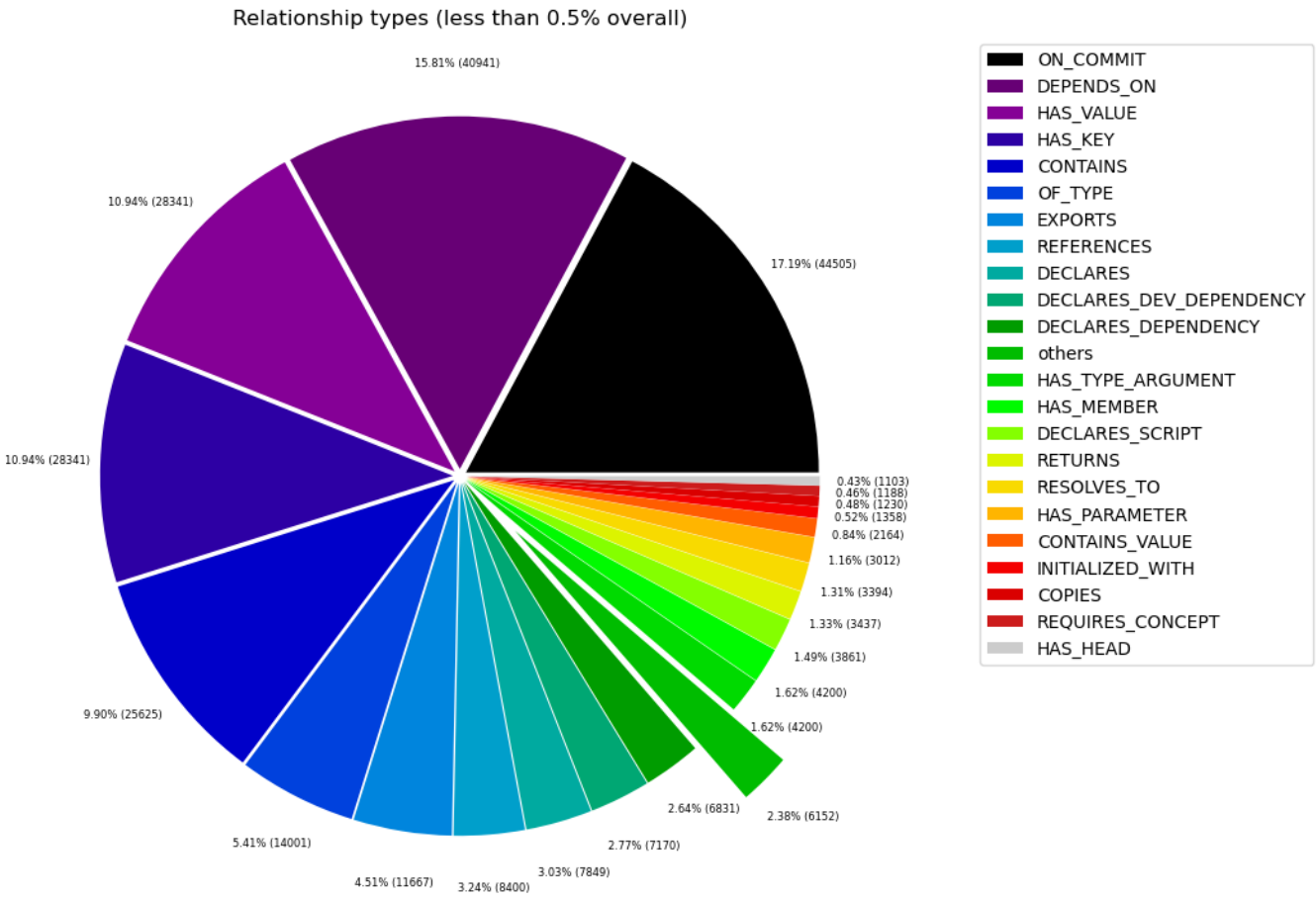
Lists the 30 relationships type with the lowest number of occurrences up to 0.5% of the total node count. This is essentially breaking down the "others" slice from the chart above.

	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	CONSTRAINED_BY	4	0.001545
1	REFERENCED_PROJECTS	5	0.001931
2	MEMBER	6	0.002317
3	HAS_ROOT	6	0.002317
4	HAS_NPM_PACKAGE	6	0.002317
5	HAS_CONFIG	6	0.002317
6	HAS_ARGUMENT	6	0.002317
7	DECLARES_ENGINE	6	0.002317
8	CONTAINS_PROJECT	6	0.002317
9	CALLS	6	0.002317
10	PARENT	6	0.002317
11	EXTENDS	7	0.002703
12	SIMILAR	10	0.003861
13	INCLUDES_CONCEPT	19	0.007337
14	COPY_OF	21	0.008109
15	USES	25	0.009654
16	HAS_HEAD	26	0.010040
17	REQUIRES_CONCEPT	28	0.010812
18	COPIES	29	0.011198
19	INITIALIZED_WITH	32	0.012357
20	CONTAINS_VALUE	51	0.019693
21	HAS_PARAMETER	71	0.027416
22	RESOLVES_TO	80	0.030892
23	RETURNS	81	0.031278
24	DECLARES_SCRIPT	91	0.035139
25	HAS_TYPE_ARGUMENT	99	0.038229
26	HAS_MEMBER	99	0.038229
27	DECLARES_DEPENDENCY	161	0.062170
28	DECLARES_DEV_DEPENDENCY	169	0.065259
29	DECLARES	185	0.071437

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]	71785	9853	
1	[Git, Change]	MODIFIES	[File, Git]	71785	71785	
2	[Git, Change]	UPDATES	[File, Git]	47927	71785	
3	[Git, Change]	CREATES	[File, Git]	16672	71785	
4	[Git, Commit]	HAS_PARENT	[Git, Commit]	10849	9853	
5	[Git, Change]	DELETES	[File, Git]	9892	71785	
6	[Author, Git, Person]	COMMITTED	[Git, Commit]	9853	1182	
7	[Committer, Git, Person]	COMMITTED	[Git, Commit]	9853	371	
8	[Git, Change]	RENAMES	[File, Git]	2706	71785	
9	[File, Git]	HAS_NEW_NAME	[File, Git]	1543	5051	
10	[Git, Tag]	ON_COMMIT	[Git, Commit]	1049	1049	
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]	284	47	
14	[TS, ExternalModule]	EXPORTS	[TS, ExternalDeclaration]	215	25	
15	[File, TS, Local, Module, Mark4ModuleWeaklyCon...	DEPENDS_ON	[TS, ExternalDeclaration]	192	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]	130	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	5051	

Graph Density

```
total_number_of_nodes (vertices): 92871
total_number_of_relationships (edges): 258969
-> total directed graph density: 3.0025635791350914e-05
-> total directed graph density in percent: 0.003002563579135091
```