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]	81462	78.307763
1	[Git, Commit]	10590	10.179952
2	[File, Git]	5486	5.273580
3	[Git, Tag]	1312	1.261199
4	[Author, Git, Person]	1215	1.167955
5	[Json, Key]	668	0.642135
6	[Json, Value, Scalar]	603	0.579652
7	[Committer, Git, Person]	371	0.356635
8	[NPM, Dependency]	338	0.324913
9	[Type, TS, Primitive]	291	0.279732
10	[Type, TS, Declared]	276	0.265313
11	[TS, ExternalDeclaration]	214	0.205714
12	[Type, TS, Literal]	136	0.130734
13	[Json, Value, Object]	133	0.127850
14	[Type, TS, Union]	119	0.114392
15	[Type, TS, ObjectMember]	101	0.097089
16	[NPM, Script]	91	0.087476
17	[TS, Property]	65	0.062483
18	[TS, Function]	47	0.045180
19	[Type, TS, FunctionParameter]	40	0.038451
20	[Type, Object, TS]	39	0.037490
21	[Git, Branch]	35	0.033645
22	[File, Directory]	34	0.032684
23	[Type, TS, Function]	34	0.032684
24	[TS, Parameter]	33	0.031722
25	[Package, File, Json, NPM]	29	0.027877
26	[TS, Variable]	24	0.023071
27	[TS, ExternalModule]	23	0.022109
28	[Value, TS, Literal]	20	0.019226
29	[jQAssistant, Rule, Concept]	19	0.018264

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>
```

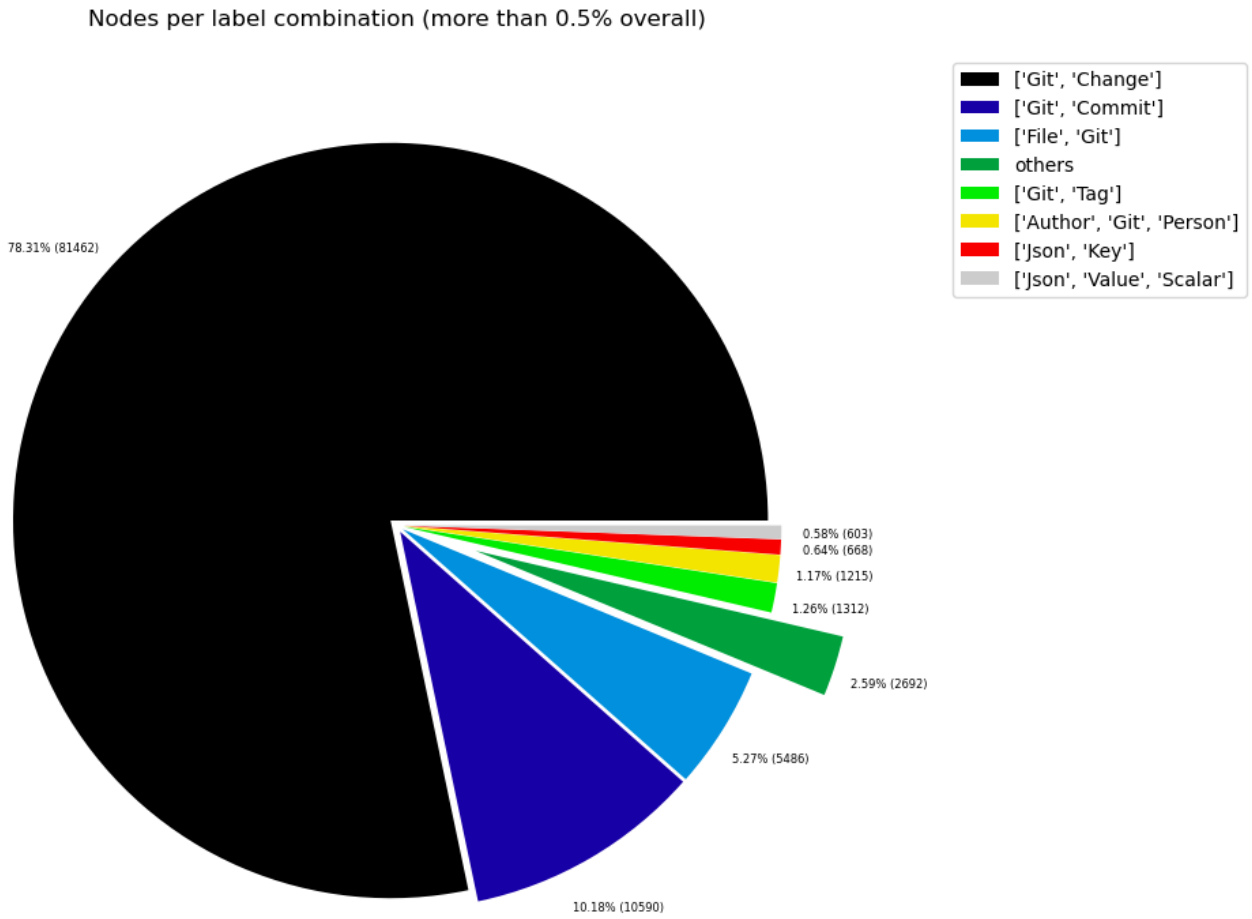


Table 1b - Lowest node count by label combination

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	0.000961
1	[File, TS, Scan]	1	0.000961
2	[TS, Method]	1	0.000961
3	[Repository, File, Git]	1	0.000961
4	[TS, Constructor]	1	0.000961
5	[Value, TS, ObjectMember]	1	0.000961
6	[TS, Class]	1	0.000961
7	[TS, Enum]	2	0.001923
8	[Value, Object, TS]	3	0.002884
9	[Type, TS, Tuple]	3	0.002884
10	[Value, TS, Function]	4	0.003845
11	[TS, TypeParameter]	4	0.003845
12	[Value, TS, Complex]	5	0.004806
13	[NPM, Engine]	6	0.005768
14	[Project, TS]	6	0.005768
15	[File, Local]	6	0.005768
16	[Value, TS, Call]	6	0.005768
17	[Value, TS, Member]	6	0.005768
18	[File, TS, Local, Module]	6	0.005768
19	[Type, TS, TypeParameterReference]	6	0.005768
20	[TS, EnumMember]	8	0.007690
21	[Type, TS, NotIdentified]	11	0.010574
22	[Json, Value, Array]	12	0.011535
23	[Value, TS, Declared]	13	0.012497
24	[TS, TypeAlias]	16	0.015380
25	[File, Directory, Local]	16	0.015380
26	[TS, Interface]	17	0.016342
27	[Type, TS, Intersection]	17	0.016342
28	[jQAssistant, Rule, Concept]	19	0.018264
29	[Value, TS, Literal]	20	0.019226

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>
```

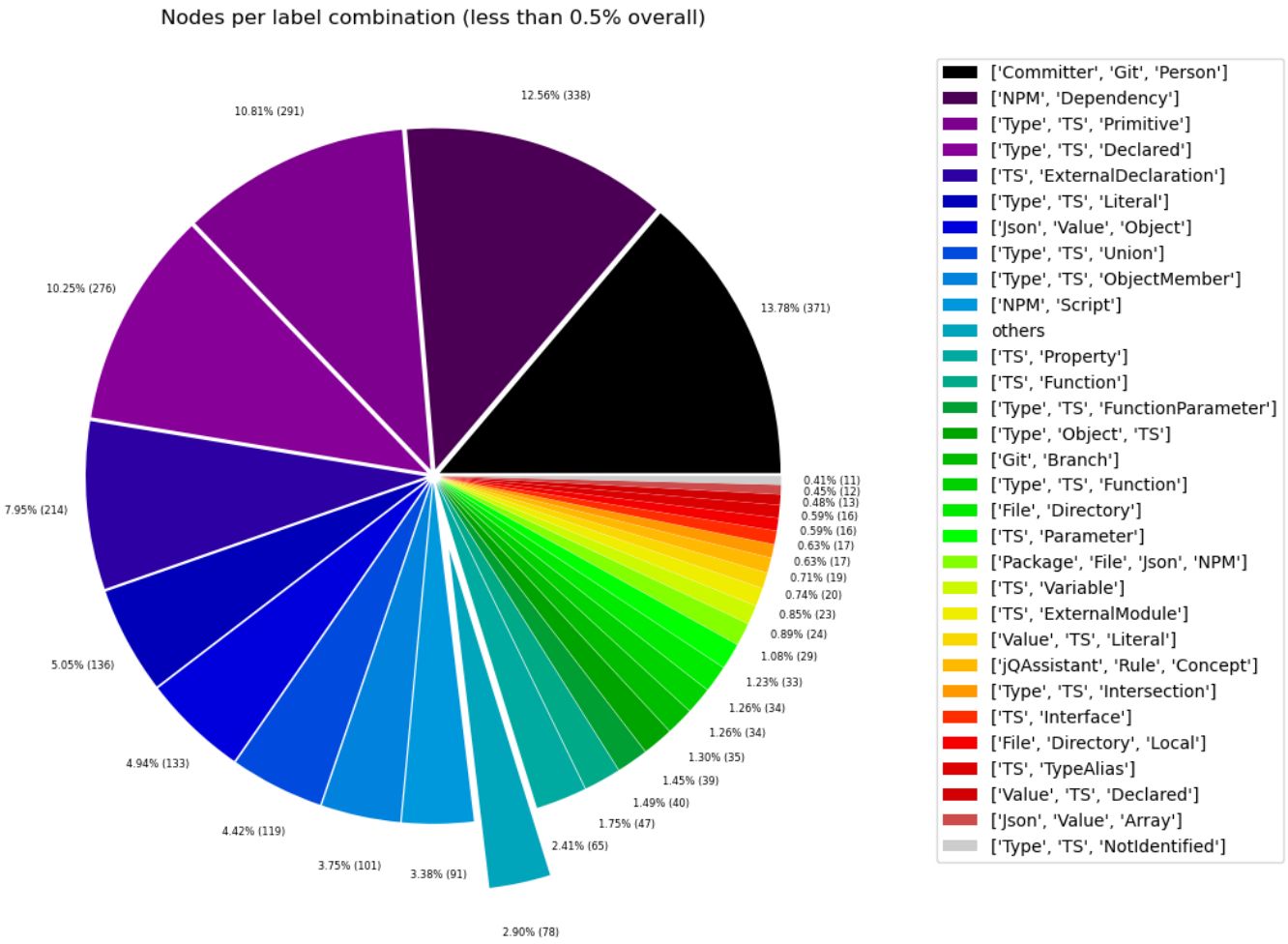


Table 1c - Highest node count by single label

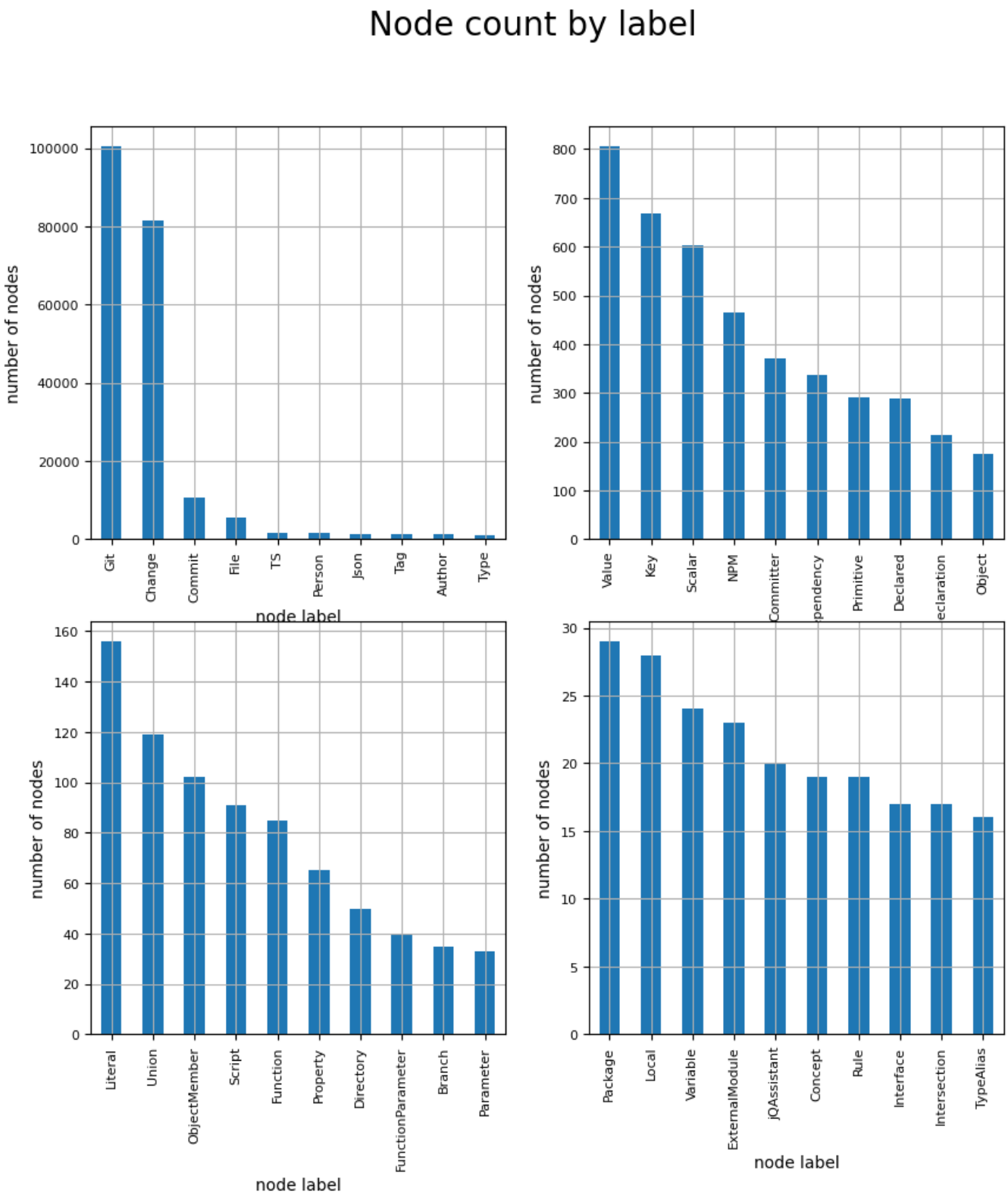
Lists the 40 labels with the highest number of nodes. Doesn't sum up to the total number of nodes or 100% because one node can have multiple labels. Helps to identify commonly used labels.

	nodeLabel	nodesWithThatLabel	nodesWithThatLabelPercent
0	Git	100472	96.581690
1	Change	81462	78.307763
2	Commit	10590	10.179952
3	File	5579	5.362979
4	TS	1600	1.538047
5	Person	1586	1.524590
6	Json	1445	1.389049
7	Tag	1312	1.261199
8	Author	1215	1.167955
9	Type	1073	1.031453
10	Value	806	0.774791
11	Key	668	0.642135
12	Scalar	603	0.579652
13	NPM	464	0.446034
14	Committer	371	0.356635
15	Dependency	338	0.324913
16	Primitive	291	0.279732
17	Declared	289	0.277810
18	ExternalDeclaration	214	0.205714
19	Object	175	0.168224
20	Literal	156	0.149960
21	Union	119	0.114392
22	ObjectMember	102	0.098051
23	Script	91	0.087476
24	Function	85	0.081709
25	Property	65	0.062483
26	Directory	50	0.048064
27	FunctionParameter	40	0.038451
28	Branch	35	0.033645
29	Parameter	33	0.031722
30	Package	29	0.027877
31	Local	28	0.026916
32	Variable	24	0.023071
33	ExternalModule	23	0.022109
34	jQAssistant	20	0.019226
35	Concept	19	0.018264
36	Rule	19	0.018264
37	Interface	17	0.016342
38	Intersection	17	0.016342
39	TypeAlias	16	0.015380

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: 310761
```

	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	CONTAINS_CHANGE	81462	26.213714
1	MODIFIES	81462	26.213714
2	UPDATES	53288	17.147583
3	COMMITTED	21180	6.815527
4	CREATES	19653	6.324153
5	DELETES	11718	3.770743
6	HAS_PARENT	11636	3.744357
7	HAS_COMMIT	10590	3.407764
8	HAS_FILE	5486	1.765344
9	RENAMES	3197	1.028765
10	HAS_NEW_NAME	1726	0.555411
11	HAS_TAG	1312	0.422189
12	ON_COMMIT	1312	0.422189
13	HAS_AUTHOR	1215	0.390976
14	DEPENDS_ON	961	0.309241
15	HAS_KEY	668	0.214956
16	HAS_VALUE	668	0.214956
17	CONTAINS	594	0.191144
18	HAS_COMMITTER	371	0.119384
19	OF_TYPE	337	0.108443
20	EXPORTS	283	0.091067
21	REFERENCES	197	0.063393
22	DECLARES	186	0.059853
23	DECLARES_DEV_DEPENDENCY	169	0.054383
24	DECLARES_DEPENDENCY	161	0.051808
25	HAS_MEMBER	102	0.032823
26	HAS_TYPE_ARGUMENT	94	0.030248
27	DECLARES_SCRIPT	91	0.029283
28	RETURNS	82	0.026387
29	HAS_PARAMETER	73	0.023491

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>
```

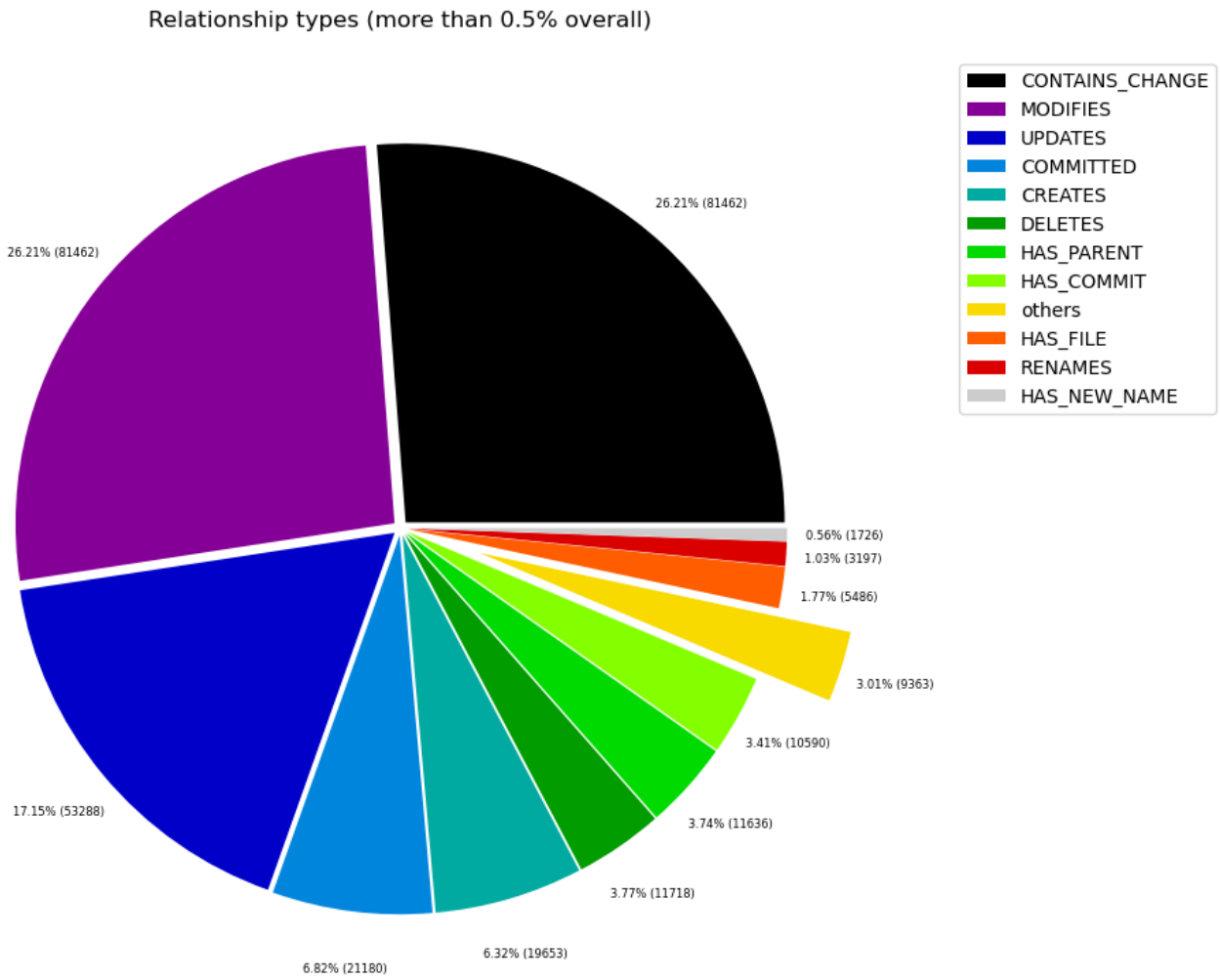


Table 2b - Lowest relationship count by type

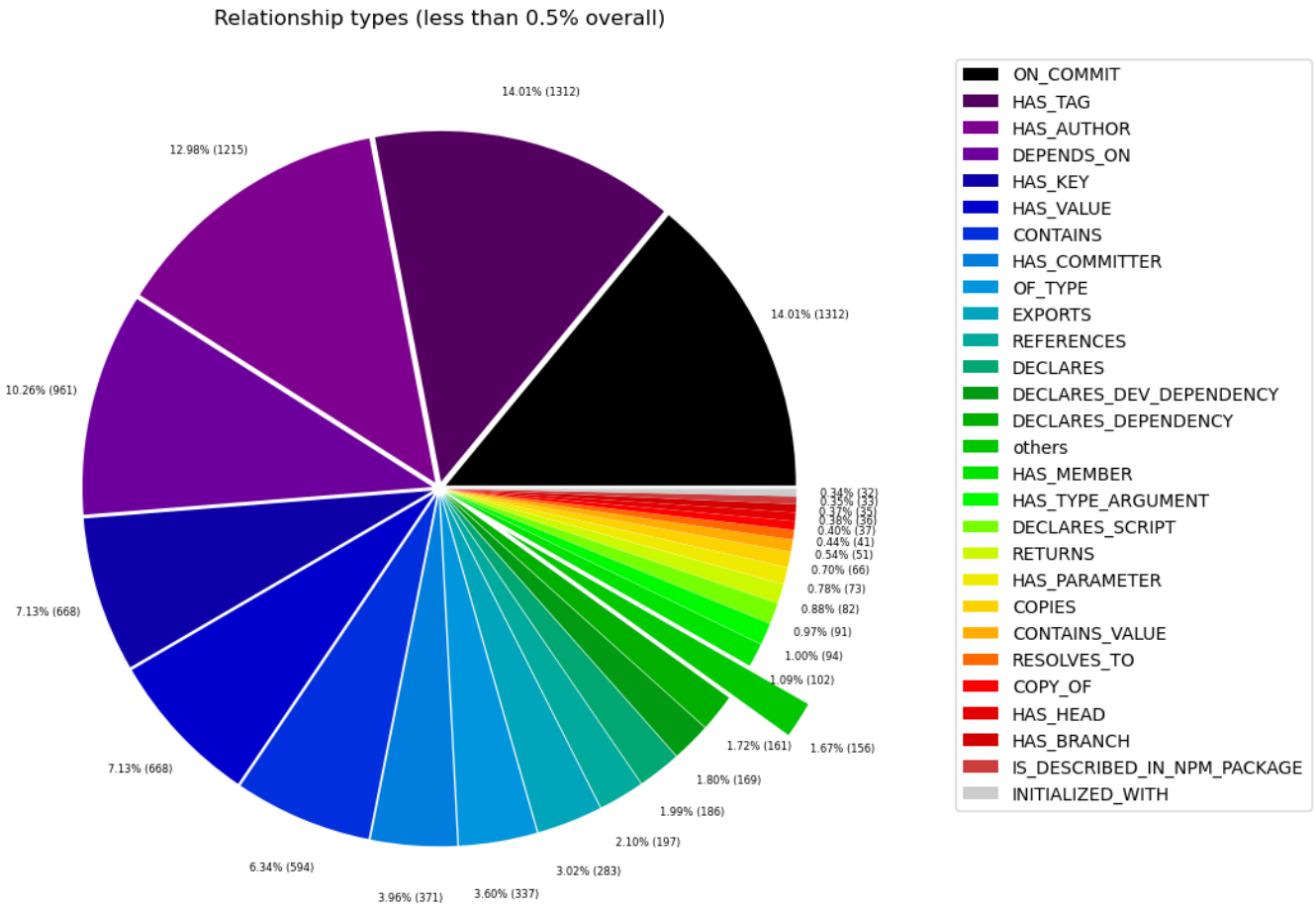
Lists the 30 relationships type with the lowest number of occurrences up to 0.5% of the total node count. This is essentially breaking down the "others" slice from the chart above.

	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	PROVIDED_BY_NPM_DEPENDENCY	1	0.000322
1	IS_IMPLEMENTED_IN	2	0.000644
2	CONSTRAINED_BY	4	0.001287
3	REFERENCED_PROJECTS	5	0.001609
4	CONTAINS_PROJECT	6	0.001931
5	DECLARES_ENGINE	6	0.001931
6	EXTENDS	6	0.001931
7	HAS_ARGUMENT	6	0.001931
8	CALLS	6	0.001931
9	HAS_NPM_PACKAGE	6	0.001931
10	HAS_ROOT	6	0.001931
11	MEMBER	6	0.001931
12	PARENT	6	0.001931
13	HAS_CONFIG	6	0.001931
14	SIMILAR	6	0.001931
15	DECLARES_PEER_DEPENDENCY	8	0.002574
16	INCLUDES_CONCEPT	19	0.006114
17	USES	23	0.007401
18	REQUIRES_CONCEPT	28	0.009010
19	INITIALIZED_WITH	32	0.010297
20	IS_DESCRIBED_IN_NPM_PACKAGE	33	0.010619
21	HAS_BRANCH	35	0.011263
22	HAS_HEAD	36	0.011584
23	COPY_OF	37	0.011906
24	RESOLVES_TO	41	0.013193
25	CONTAINS_VALUE	51	0.016411
26	COPIES	66	0.021238
27	HAS_PARAMETER	73	0.023491
28	RETURNS	82	0.026387
29	DECLARES_SCRIPT	91	0.029283

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	numberOfNodesT
0	[Git, Change]	MODIFIES	[File, Git]	81462	81462	
1	[Git, Commit]	CONTAINS_CHANGE	[Git, Change]	81462	10590	
2	[Git, Change]	UPDATES	[File, Git]	53288	81462	
3	[Git, Change]	CREATES	[File, Git]	19653	81462	
4	[Git, Change]	DELETES	[File, Git]	11718	81462	
5	[Git, Commit]	HAS_PARENT	[Git, Commit]	11636	10590	
6	[Repository, File, Git]	HAS_COMMIT	[Git, Commit]	10590	1	
7	[Author, Git, Person]	COMMITTED	[Git, Commit]	10590	1215	
8	[Committer, Git, Person]	COMMITTED	[Git, Commit]	10590	371	
9	[Repository, File, Git]	HAS_FILE	[File, Git]	5486	1	
10	[Git, Change]	RENAMES	[File, Git]	3197	81462	
11	[File, Git]	HAS_NEW_NAME	[File, Git]	1726	5486	
12	[Repository, File, Git]	HAS_TAG	[Git, Tag]	1312	1	
13	[Git, Tag]	ON_COMMIT	[Git, Commit]	1312	1312	
14	[Repository, File, Git]	HAS_AUTHOR	[Author, Git, Person]	1215	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): 104028
total_number_of_relationships (edges): 310761
-> total directed graph density: 2.8716412759745397e-05
-> total directed graph density in percent: 0.0028716412759745395
```