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]	76077	77.925390
1	[Git, Commit]	10143	10.389437
2	[File, Git]	5183	5.308928
3	[Author, Git, Person]	1186	1.214815
4	[Git, Tag]	1113	1.140042
5	[Json, Key]	668	0.684230
6	[Json, Value, Scalar]	603	0.617651
7	[Committer, Git, Person]	371	0.380014
8	[NPM, Dependency]	330	0.338018
9	[Type, TS, Primitive, ExternalType]	285	0.291924
10	[Type, TS, Declared, ExternalType]	272	0.278609
11	[TS, ExternalDeclaration]	215	0.220224
12	[Type, TS, Literal, ExternalType]	136	0.139304
13	[Json, Value, Object]	133	0.136231
14	[Type, TS, Union, ExternalType]	117	0.119843
15	[Type, TS, ObjectMember, ExternalType]	98	0.100381
16	[NPM, Script]	91	0.093211
17	[TS, Property]	65	0.066579
18	[TS, Function]	47	0.048142
19	[Type, Object, TS, ExternalType]	38	0.038923
20	[Type, TS, FunctionParameter, ExternalType]	37	0.037899
21	[File, Directory]	34	0.034826
22	[TS, Parameter]	33	0.033802
23	[Type, TS, Function, ExternalType]	32	0.032777
24	[Package, File, Json, NPM]	29	0.029705
25	[Git, Branch]	26	0.026632
26	[TS, ExternalModule]	25	0.025607
27	[TS, Variable]	24	0.024583
28	[Value, TS, Literal]	20	0.020486
29	[jQAssistant, Rule, Concept]	19	0.019462

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>
```

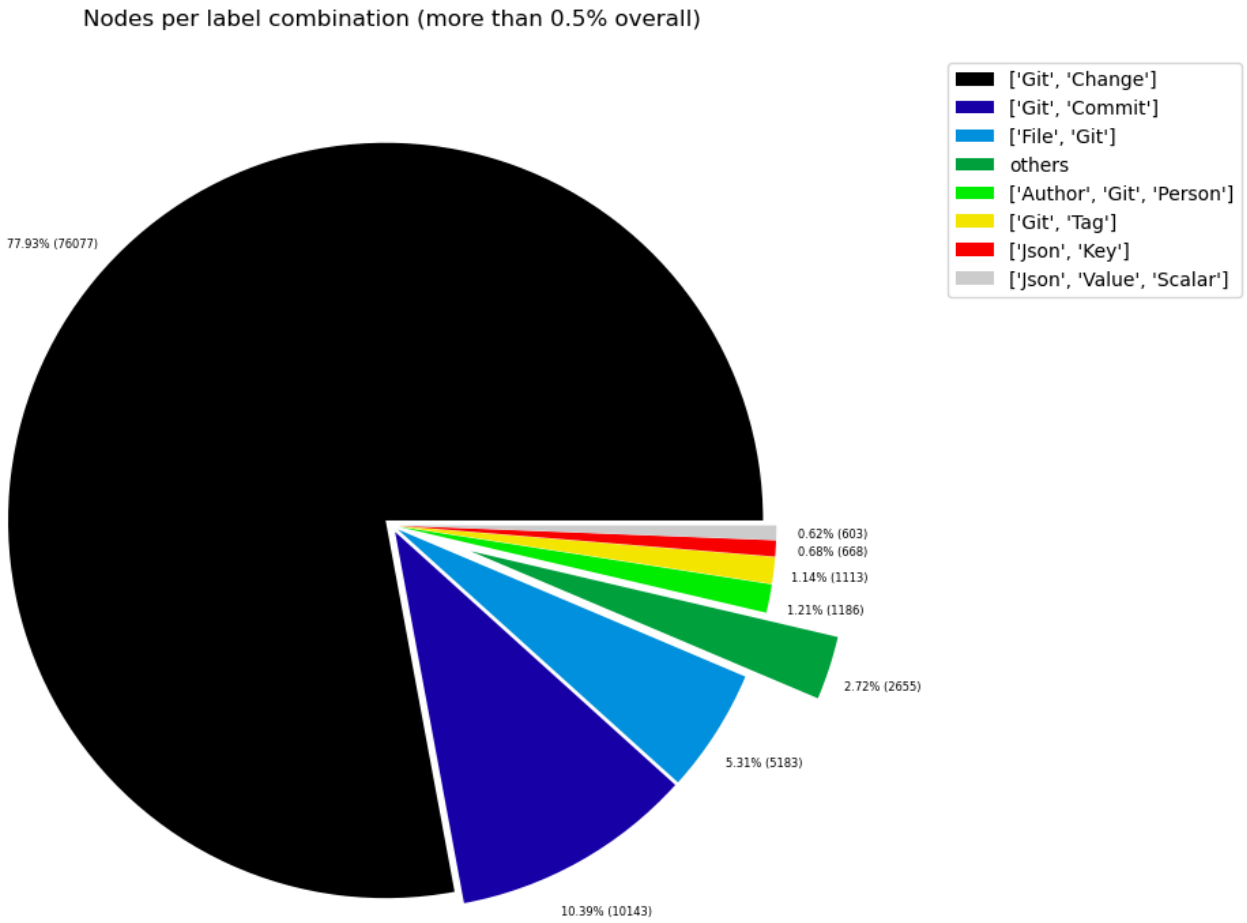

Table 1b - Lowest node count by label combination

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	0.001024
1	[File, TS, Scan]	1	0.001024
2	[TS, Method]	1	0.001024
3	[Value, TS, ObjectMember]	1	0.001024
4	[TS, Constructor]	1	0.001024
5	[TS, Class]	1	0.001024
6	[TS, Enum]	2	0.002049
7	[Value, Object, TS]	3	0.003073
8	[Type, TS, Tuple, ExternalType]	3	0.003073
9	[Value, TS, Function]	4	0.004097
10	[TS, TypeParameter]	4	0.004097
11	[Value, TS, Complex]	5	0.005121
12	[NPM, Engine]	6	0.006146
13	[Project, TS]	6	0.006146
14	[File, Local]	6	0.006146
15	[Value, TS, Call]	6	0.006146
16	[Value, TS, Member]	6	0.006146
17	[File, TS, Local, Module]	6	0.006146
18	[Type, TS, TypeParameterReference, ExternalType]	6	0.006146
19	[TS, EnumMember]	8	0.008194
20	[Type, TS, NotIdentified, ExternalType]	11	0.011267
21	[Json, Value, Array]	12	0.012292
22	[Value, TS, Declared]	13	0.013316
23	[TS, TypeAlias]	14	0.014340
24	[File, Directory, Local]	16	0.016389
25	[Type, TS, Intersection, ExternalType]	17	0.017413
26	[TS, Interface]	18	0.018437
27	[jQAssistant, Rule, Concept]	19	0.019462
28	[Value, TS, Literal]	20	0.020486
29	[TS, Variable]	24	0.024583

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>
```

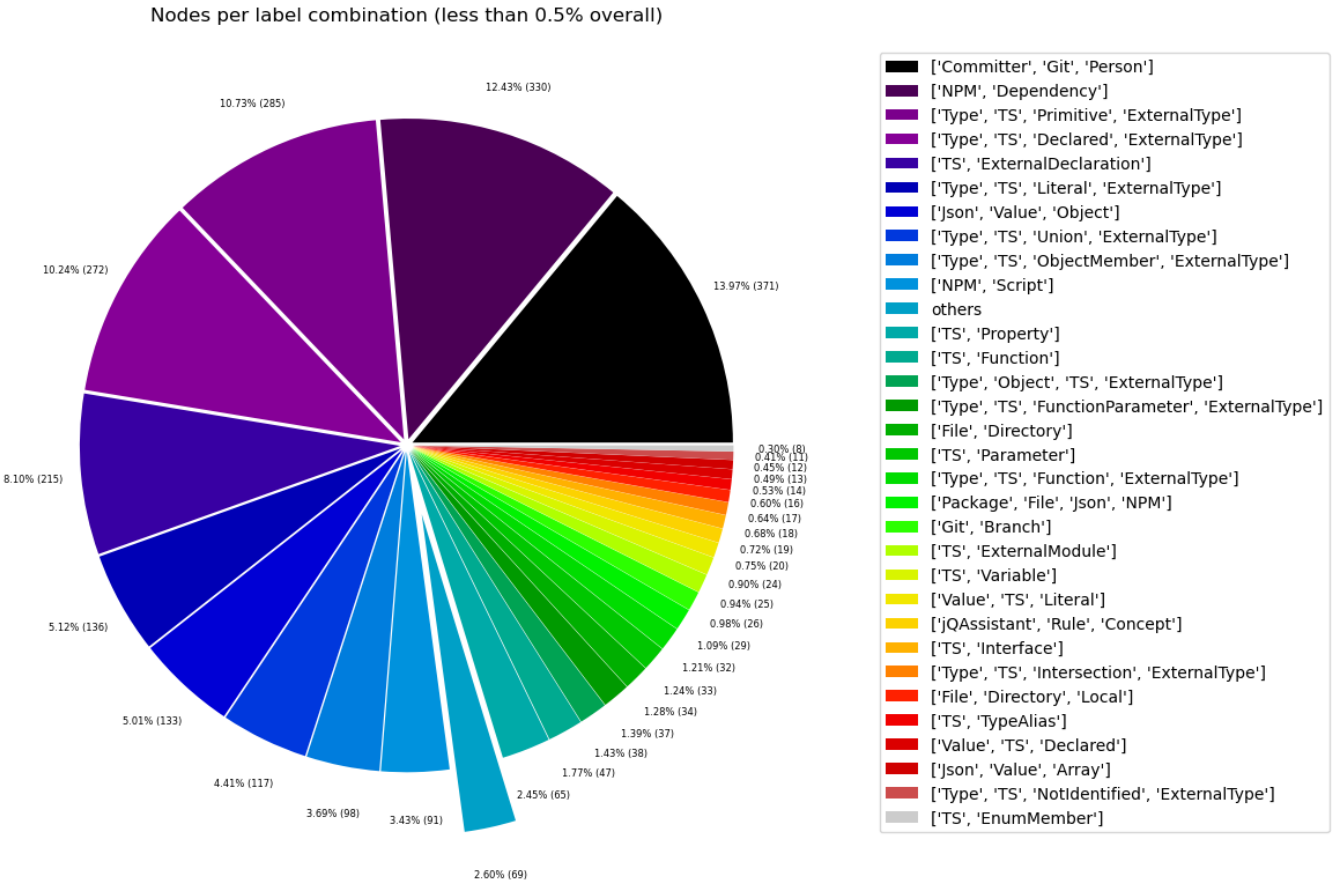

Table 1c - Highest node count by single label

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	94099	96.385258
1	Change	76077	77.925390
2	Commit	10143	10.389437
3	File	5275	5.403163
4	TS	1581	1.619412
5	Person	1557	1.594829
6	Json	1445	1.480108
7	Author	1186	1.214815
8	Tag	1113	1.140042
9	ExternalType	1052	1.077560
10	Type	1052	1.077560
11	Value	806	0.825583
12	Key	668	0.684230
13	Scalar	603	0.617651
14	NPM	456	0.467079
15	Committer	371	0.380014
16	Dependency	330	0.338018
17	Declared	285	0.291924
18	Primitive	285	0.291924
19	ExternalDeclaration	215	0.220224
20	Object	174	0.178228
21	Literal	156	0.159790
22	Union	117	0.119843
23	ObjectMember	99	0.101405
24	Script	91	0.093211
25	Function	83	0.085017
26	Property	65	0.066579
27	Directory	50	0.051215
28	FunctionParameter	37	0.037899
29	Parameter	33	0.033802
30	Package	29	0.029705
31	Local	28	0.028680
32	Branch	26	0.026632
33	ExternalModule	25	0.025607
34	Variable	24	0.024583
35	jQAssistant	20	0.020486
36	Concept	19	0.019462
37	Rule	19	0.019462
38	Interface	18	0.018437
39	Intersection	17	0.017413

Chart 1c - Highest node count by label

Shows the 40 labels with the highest number of nodes.

```
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```
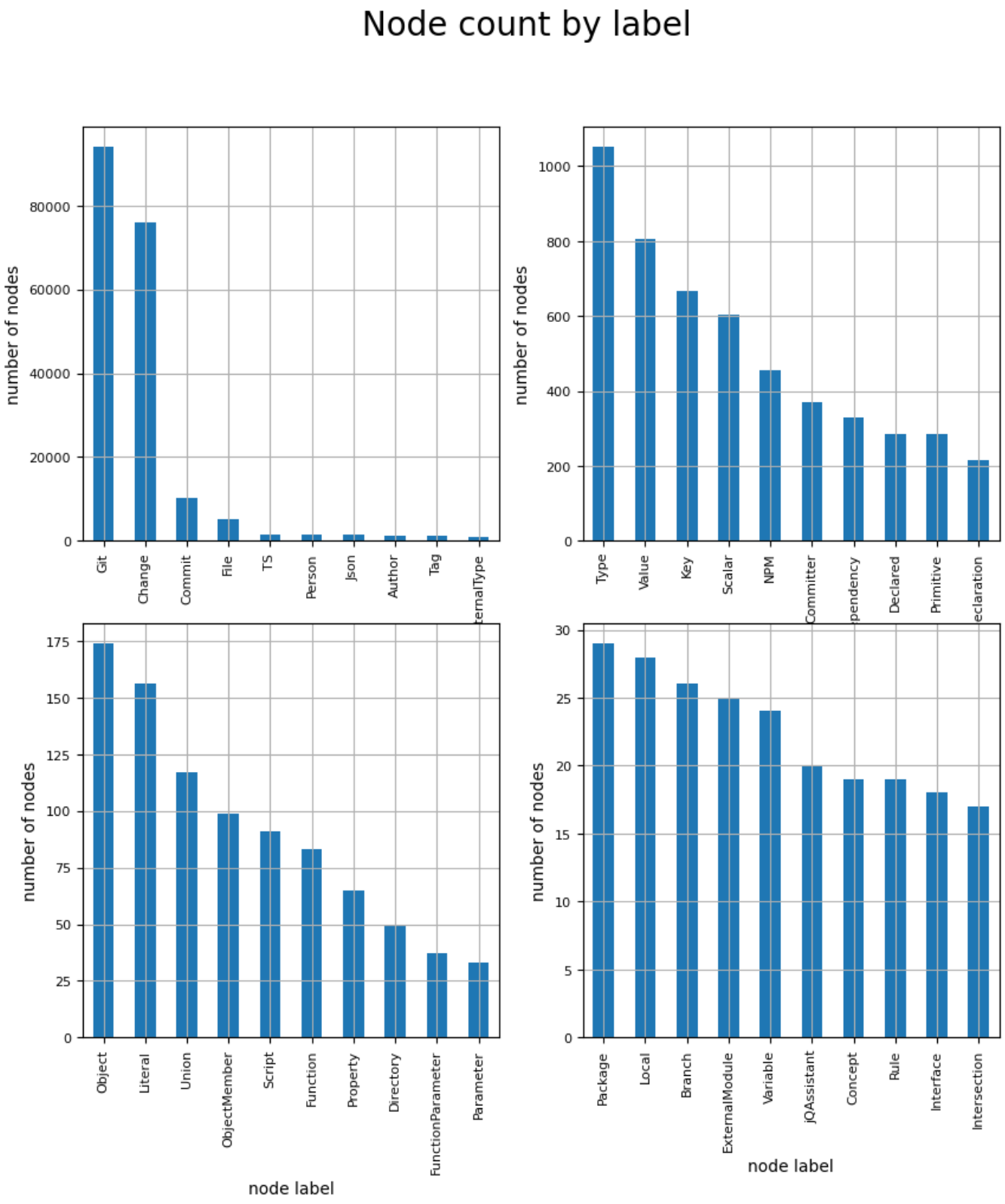



Relationship Types

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: 272980
```

	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	CONTAINS_CHANGE	76077	27.869075
1	MODIFIES	76077	27.869075
2	UPDATES	50165	18.376804
3	COMMITTED	20286	7.431314
4	CREATES	18157	6.651403
5	HAS_PARENT	11168	4.091142
6	DELETES	10536	3.859623
7	RENAMES	2781	1.018756
8	HAS_NEW_NAME	1572	0.575866
9	ON_COMMIT	1113	0.407722
10	DEPENDS_ON	962	0.352407
11	HAS_KEY	668	0.244707
12	HAS_VALUE	668	0.244707
13	CONTAINS	589	0.215767
14	OF_TYPE	329	0.120522
15	EXPORTS	275	0.100740
16	REFERENCES	196	0.071800
17	DECLARES	185	0.067771
18	DECLARES_DEV_DEPENDENCY	169	0.061909
19	DECLARES_DEPENDENCY	161	0.058979
20	HAS_MEMBER	99	0.036266
21	HAS_TYPE_ARGUMENT	92	0.033702
22	DECLARES_SCRIPT	91	0.033336
23	RESOLVES_TO	81	0.029673
24	RETURNS	80	0.029306
25	HAS_PARAMETER	70	0.025643
26	CONTAINS_VALUE	51	0.018683
27	COPIES	43	0.015752
28	INITIALIZED_WITH	32	0.011722
29	COPY_OF	28	0.010257

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>
```

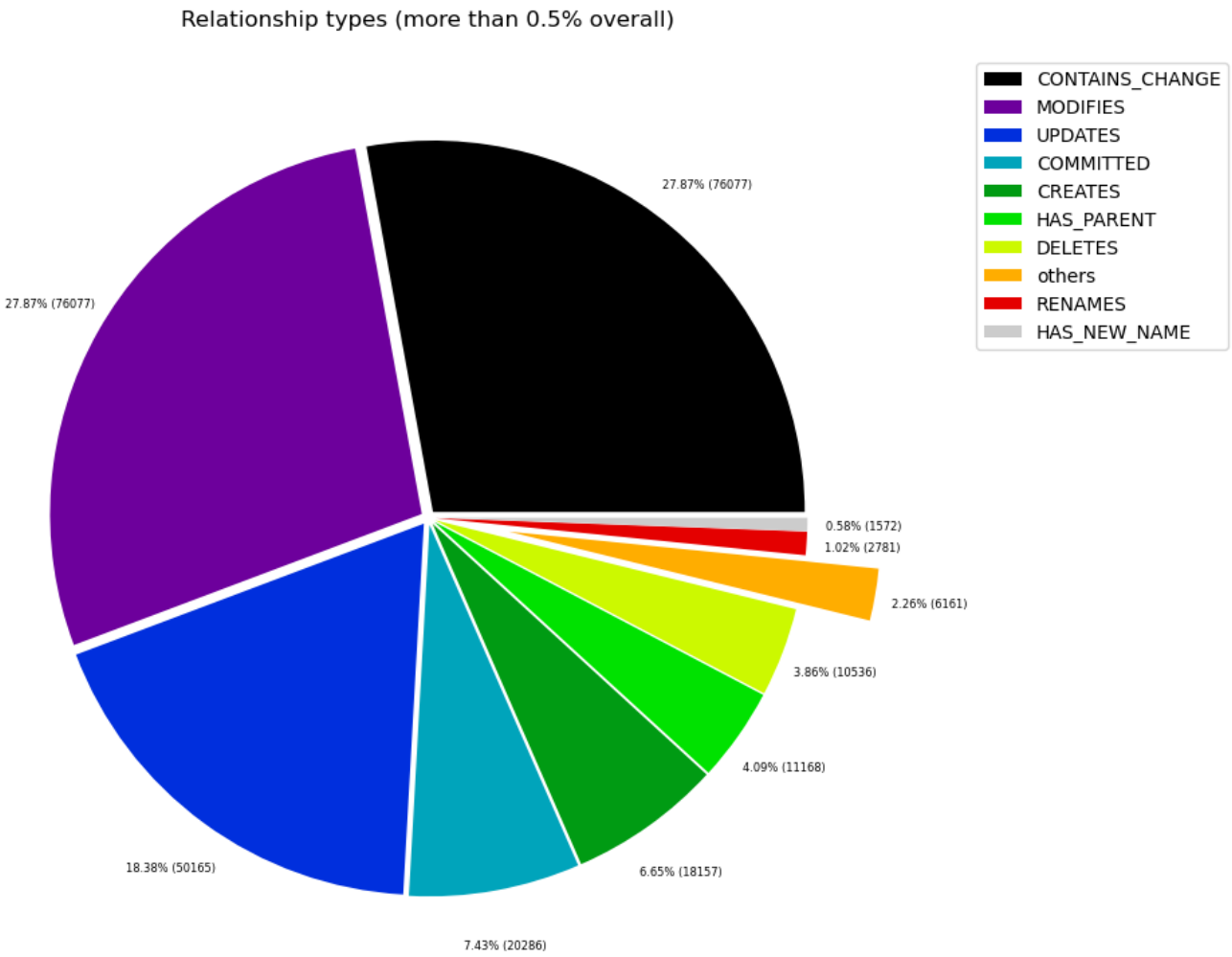


Table 2b - Lowest relationship count by type

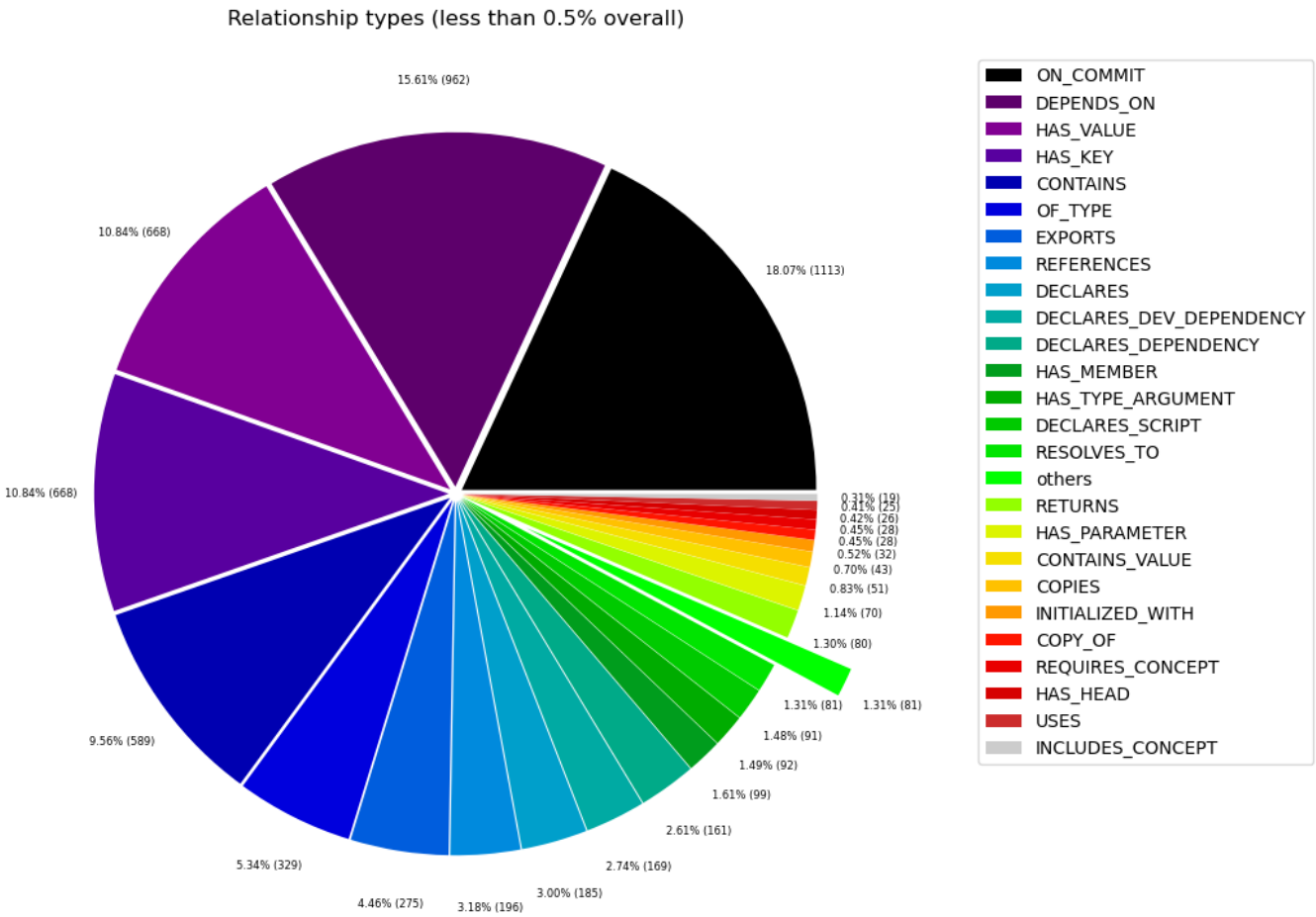
Lists the 30 relationships type with the lowest number of occurrences up to 0.5% of the total node count. This is essentially breaking down the "others" slice from the chart above.

	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	PROVIDED_BY_NPM_DEPENDENCY	1	0.000366
1	CONSTRAINED_BY	4	0.001465
2	REFERENCED_PROJECTS	5	0.001832
3	PARENT	6	0.002198
4	MEMBER	6	0.002198
5	HAS_ROOT	6	0.002198
6	HAS_NPM_PACKAGE	6	0.002198
7	HAS_CONFIG	6	0.002198
8	HAS_ARGUMENT	6	0.002198
9	DECLARES_ENGINE	6	0.002198
10	CONTAINS_PROJECT	6	0.002198
11	CALLS	6	0.002198
12	EXTENDS	7	0.002564
13	SIMILAR	10	0.003663
14	INCLUDES_CONCEPT	19	0.006960
15	USES	25	0.009158
16	HAS_HEAD	26	0.009525
17	REQUIRES_CONCEPT	28	0.010257
18	COPY_OF	28	0.010257
19	INITIALIZED_WITH	32	0.011722
20	COPIES	43	0.015752
21	CONTAINS_VALUE	51	0.018683
22	HAS_PARAMETER	70	0.025643
23	RETURNS	80	0.029306
24	RESOLVES_TO	81	0.029673
25	DECLARES_SCRIPT	91	0.033336
26	HAS_TYPE_ARGUMENT	92	0.033702
27	HAS_MEMBER	99	0.036266
28	DECLARES_DEPENDENCY	161	0.058979
29	DECLARES_DEV_DEPENDENCY	169	0.061909

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]	76077	10143	
1	[Git, Change]	MODIFIES	[File, Git]	76077	76077	
2	[Git, Change]	UPDATES	[File, Git]	50165	76077	
3	[Git, Change]	CREATES	[File, Git]	18157	76077	
4	[Git, Commit]	HAS_PARENT	[Git, Commit]	11168	10143	
5	[Git, Change]	DELETES	[File, Git]	10536	76077	
6	[Author, Git, Person]	COMMITTED	[Git, Commit]	10143	1186	
7	[Committer, Git, Person]	COMMITTED	[Git, Commit]	10143	371	
8	[Git, Change]	RENAMES	[File, Git]	2781	76077	
9	[File, Git]	HAS_NEW_NAME	[File, Git]	1572	5183	
10	[Git, Tag]	ON_COMMIT	[Git, Commit]	1113	1113	
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	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]	144	117	
19	[Type, TS, Declared, ExternalType]	REFERENCES	[TS, ExternalDeclaration]	141	272	
20	[TS, Function]	DEPENDS_ON	[TS, ExternalModule]	131	47	
21	[Type, TS, Union, ExternalType]	CONTAINS	[Type, TS, Literal, ExternalType]	119	117	
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]	69	117	
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	5183	

Graph Density

```
total_number_of_nodes (vertices): 97628
total_number_of_relationships (edges): 272980
-> total directed graph density: 2.8640888921803167e-05
-> total directed graph density in percent: 0.002864088892180317
```