

# 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`.

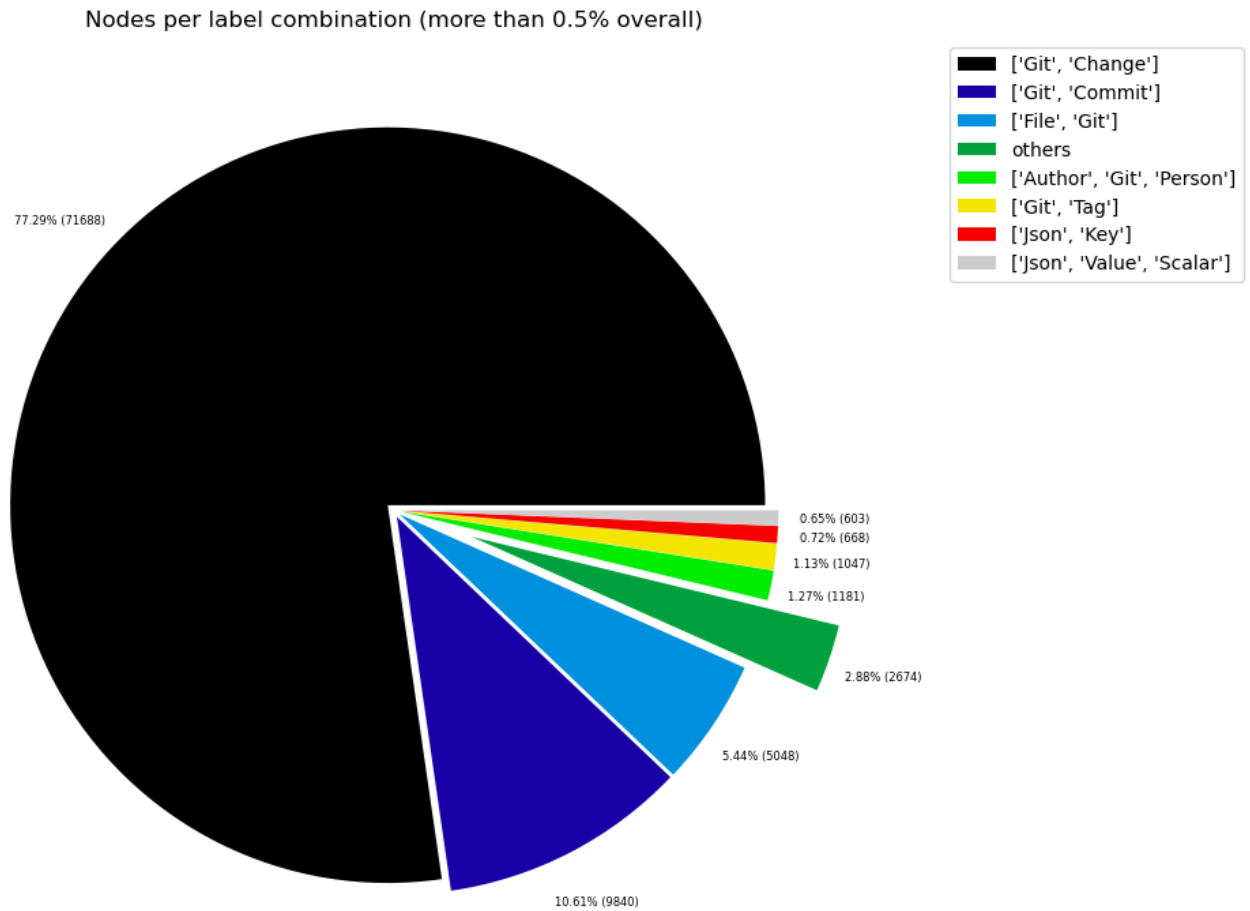
Total number of nodes: 92749

	nodeLabels	nodesWithThatLabels	nodesWithThatLabelsPercent
0	[Git, Change]	71688	77.292478
1	[Git, Commit]	9840	10.609279
2	[File, Git]	5048	5.442646
3	[Author, Git, Person]	1181	1.273329
4	[Git, Tag]	1047	1.128853
5	[Json, Key]	668	0.720223
6	[Json, Value, Scalar]	603	0.650142
7	[Committer, Git, Person]	371	0.400004
8	[NPM, Dependency]	330	0.355799
9	[Type, TS, Primitive, ExternalType]	291	0.313750
10	[Type, TS, Declared, ExternalType]	286	0.308359
11	[TS, ExternalDeclaration]	211	0.227496
12	[Type, TS, Literal, ExternalType]	136	0.146632
13	[Json, Value, Object]	133	0.143398
14	[Type, TS, Union, ExternalType]	120	0.129381
15	[Type, TS, ObjectMember, ExternalType]	98	0.105662
16	[NPM, Script]	91	0.098114
17	[TS, Property]	65	0.070082
18	[TS, Function]	47	0.050674
19	[Type, Object, TS, ExternalType]	38	0.040971
20	[Type, TS, FunctionParameter, ExternalType]	38	0.040971
21	[File, Directory]	34	0.036658
22	[TS, Parameter]	33	0.035580
23	[Type, TS, Function, ExternalType]	33	0.035580
24	[Package, File, Json, NPM]	29	0.031267
25	[TS, ExternalModule]	25	0.026954
26	[TS, Variable]	24	0.025876
27	[Git, Branch]	24	0.025876
28	[Value, TS, Literal]	20	0.021564
29	[jqAssistant, Rule, Concept]	19	0.020485

## 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	0.008625
20	[Type, TS, NotIdentified, ExternalType]	11	0.011860
21	[Json, Value, Array]	12	0.012938
22	[Value, TS, Declared]	13	0.014016
23	[TS, TypeAlias]	14	0.015095
24	[File, Directory, Local]	16	0.017251
25	[Type, TS, Intersection, ExternalType]	17	0.018329
26	[TS, Interface]	18	0.019407
27	[jQAssistant, Rule, Concept]	19	0.020485
28	[Value, TS, Literal]	20	0.021564
29	[TS, Variable]	24	0.025876

## 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>

Nodes per label combination (less than 0.5% overall)

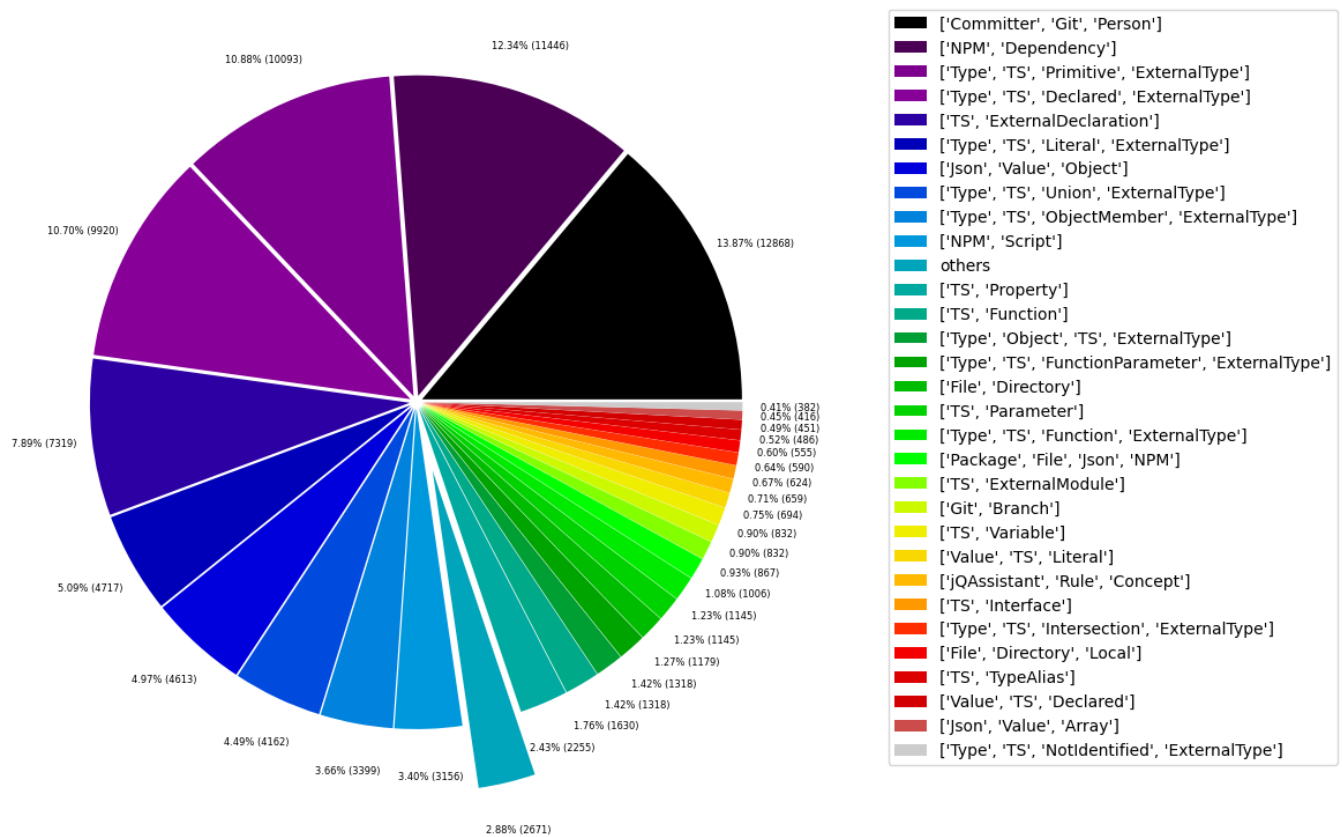


Table 1c - Highest node count by single label

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.

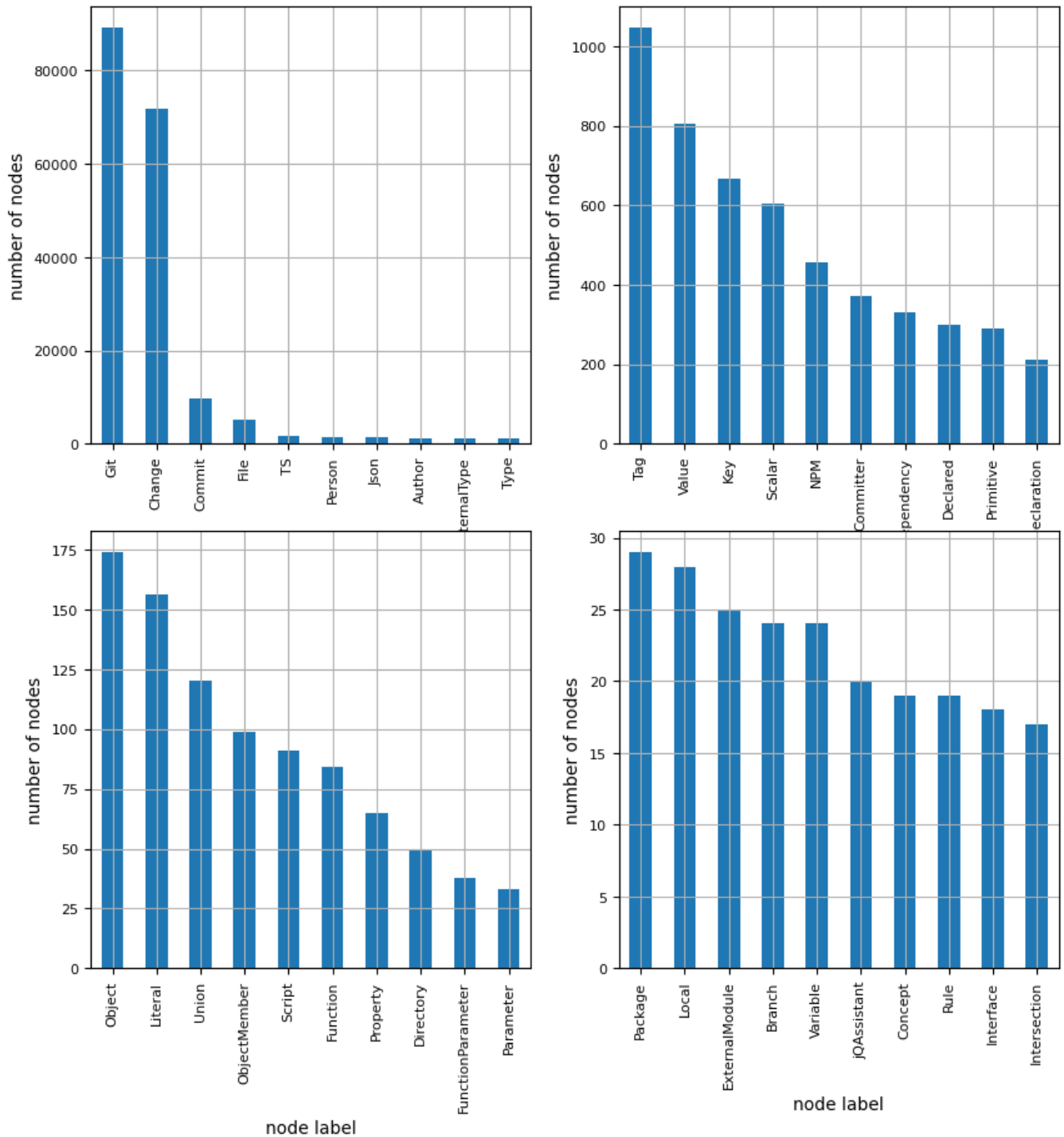
	nodeLabel	nodesWithThatLabel	nodesWithThatLabelPercent
0	Git	89199	96.172465
1	Change	71688	77.292478
2	Commit	9840	10.609279
3	File	5140	5.541839
4	TS	1602	1.727242
5	Person	1552	1.673333
6	Json	1445	1.557968
7	Author	1181	1.273329
8	ExternalType	1077	1.161199
9	Type	1077	1.161199
10	Tag	1047	1.128853
11	Value	806	0.869012
12	Key	668	0.720223
13	Scalar	603	0.650142
14	NPM	456	0.491650
15	Committer	371	0.400004
16	Dependency	330	0.355799
17	Declared	299	0.322375
18	Primitive	291	0.313750
19	ExternalDeclaration	211	0.227496
20	Object	174	0.187603
21	Literal	156	0.168196
22	Union	120	0.129381
23	ObjectMember	99	0.106740
24	Script	91	0.098114
25	Function	84	0.090567
26	Property	65	0.070082
27	Directory	50	0.053909
28	FunctionParameter	38	0.040971
29	Parameter	33	0.035580
30	Package	29	0.031267
31	Local	28	0.030189
32	ExternalModule	25	0.026954
33	Branch	24	0.025876
34	Variable	24	0.025876
35	jQAssistant	20	0.021564
36	Concept	19	0.020485
37	Rule	19	0.020485
38	Interface	18	0.019407
39	Intersection	17	0.018329

## Chart 1c - Highest node count by label

Shows the 40 labels with the highest number of nodes.

<Figure size 640x480 with 0 Axes>

## Node count by label



## 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: 258616

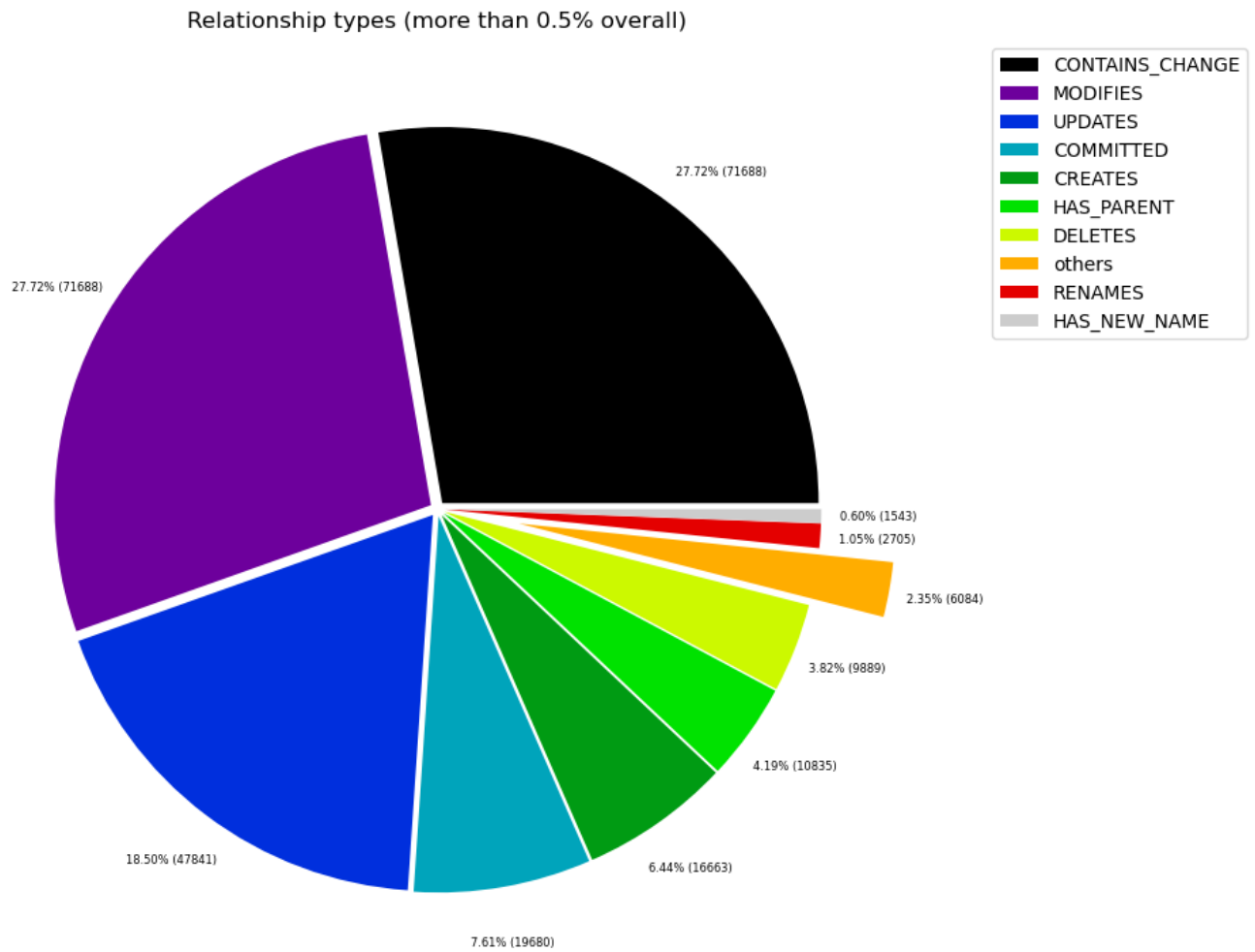
	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	CONTAINS_CHANGE	71688	27.719863
1	MODIFIES	71688	27.719863
2	UPDATES	47841	18.498855
3	COMMITTED	19680	7.609738
4	CREATES	16663	6.443144
5	HAS_PARENT	10835	4.189609
6	DELETES	9889	3.823816
7	RENAMES	2705	1.045952
8	HAS_NEW_NAME	1543	0.596637
9	ON_COMMIT	1047	0.404847
10	DEPENDS_ON	953	0.368500
11	HAS_KEY	668	0.258298
12	HAS_VALUE	668	0.258298
13	CONTAINS	604	0.233551
14	OF_TYPE	330	0.127602
15	EXPORTS	271	0.104789
16	REFERENCES	198	0.076561
17	DECLARES	185	0.071535
18	DECLARES_DEV_DEPENDENCY	169	0.065348
19	DECLARES_DEPENDENCY	161	0.062254
20	HAS_MEMBER	99	0.038281
21	HAS_TYPE_ARGUMENT	99	0.038281
22	DECLARES_SCRIPT	91	0.035187
23	RETURNS	81	0.031321
24	RESOLVES_TO	80	0.030934
25	HAS_PARAMETER	71	0.027454
26	CONTAINS_VALUE	51	0.019720
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

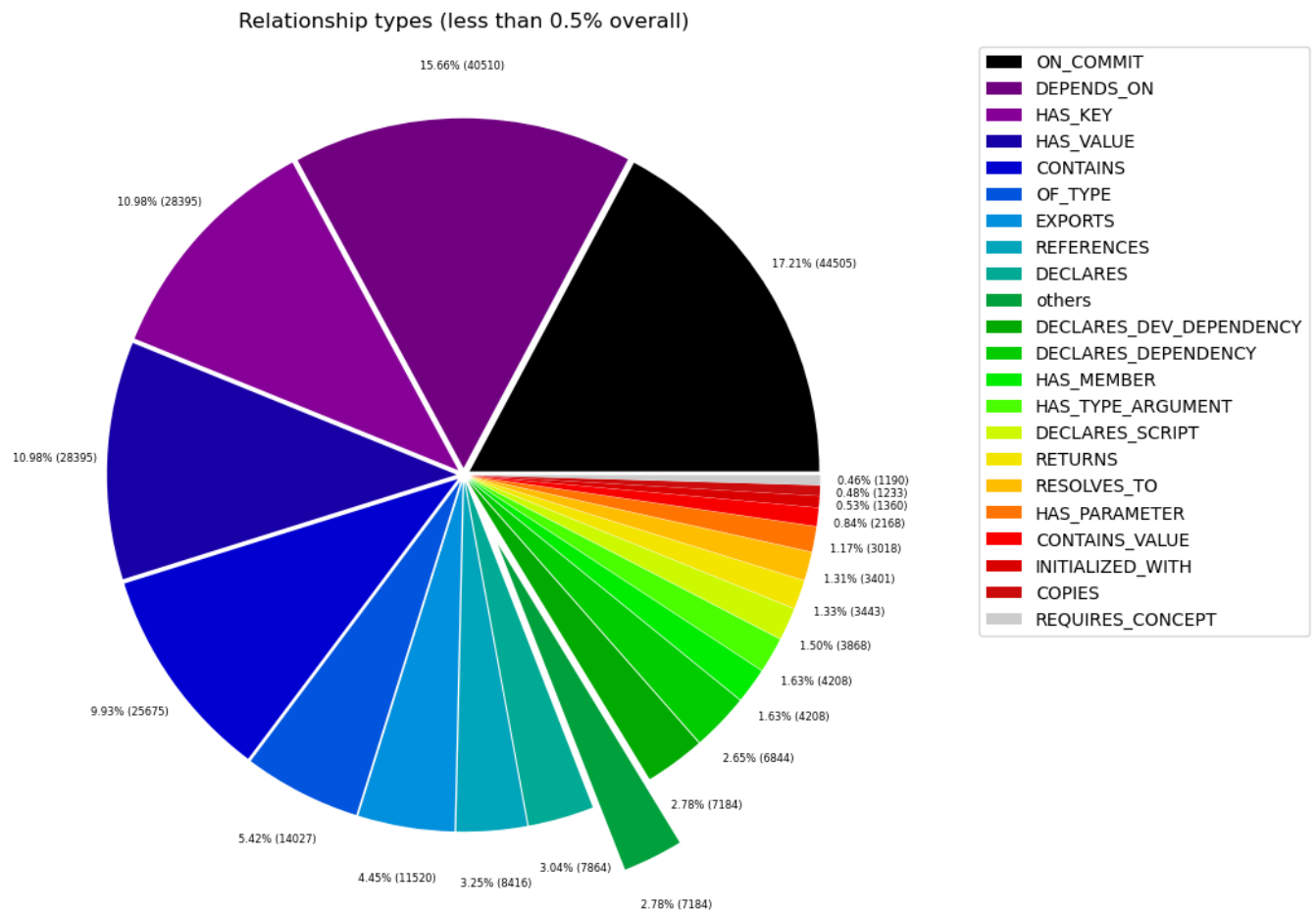
Lists the 30 relationships type with the lowest number of occurrences up to 0.5% of the total node count. This is essentially breaking down the "others" slice from the chart above.

	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	0.019720
21	HAS_PARAMETER	71	0.027454
22	RESOLVES_TO	80	0.030934
23	RETURNS	81	0.031321
24	DECLARES_SCRIPT	91	0.035187
25	HAS_TYPE_ARGUMENT	99	0.038281
26	HAS_MEMBER	99	0.038281
27	DECLARES_DEPENDENCY	161	0.062254
28	DECLARES_DEV_DEPENDENCY	169	0.065348
29	DECLARES	185	0.071535

## 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]	71688		9840
1	[Git, Change]	MODIFIES	[File, Git]	71688		71688
2	[Git, Change]	UPDATES	[File, Git]	47841		71688
3	[Git, Change]	CREATES	[File, Git]	16663		71688
4	[Git, Commit]	HAS_PARENT	[Git, Commit]	10835		9840
5	[Git, Change]	DELETES	[File, Git]	9889		71688
6	[Author, Git, Person]	COMMITTED	[Git, Commit]	9840		1181
7	[Committer, Git, Person]	COMMITTED	[Git, Commit]	9840		371
8	[Git, Change]	RENAMES	[File, Git]	2705		71688
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): 92749

total\_number\_of\_relationships (edges): 258616

-> total directed graph density: 3.006364268186938e-05

-> total directed graph density in percent: 0.003006364268186938