

# 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: 90034

	nodeLabels	nodesWithThatLabels	nodesWithThatLabelsPercent
0	[Git, Change]	70941	78.793567
1	[Git, Commit]	9775	10.857010
2	[File, Git]	5032	5.589000
3	[Author, Git, Person]	1180	1.310616
4	[Git, Tag]	1026	1.139569
5	[Committer, Git, Person]	370	0.410956
6	[Type, TS, Primitive, ExternalType]	291	0.323211
7	[Type, TS, Declared, ExternalType]	286	0.317658
8	[TS, ExternalDeclaration]	211	0.234356
9	[Type, TS, Literal, ExternalType]	136	0.151054
10	[Type, TS, Union, ExternalType]	120	0.133283
11	[Type, TS, ObjectMember, ExternalType]	98	0.108848
12	[TS, Property]	65	0.072195
13	[TS, Function]	47	0.052203
14	[Type, TS, Object, ExternalType]	38	0.042206
15	[Type, TS, FunctionParameter, ExternalType]	38	0.042206
16	[TS, Parameter]	33	0.036653
17	[Type, TS, Function, ExternalType]	33	0.036653
18	[TS, ExternalModule]	25	0.027767
19	[File]	25	0.027767
20	[TS, Variable]	24	0.026657
21	[Git, Branch]	24	0.026657
22	[TS, Literal, Value]	20	0.022214
23	[jqAssistant, Rule, Concept]	19	0.021103
24	[TS, Interface]	18	0.019992
25	[Type, TS, Intersection, ExternalType]	17	0.018882
26	[File, Local, Directory]	16	0.017771
27	[File, Directory]	16	0.017771
28	[TS, TypeAlias]	14	0.015550
29	[TS, Declared, Value]	13	0.014439

## 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>

Nodes per label combination (more than 0.5% overall)

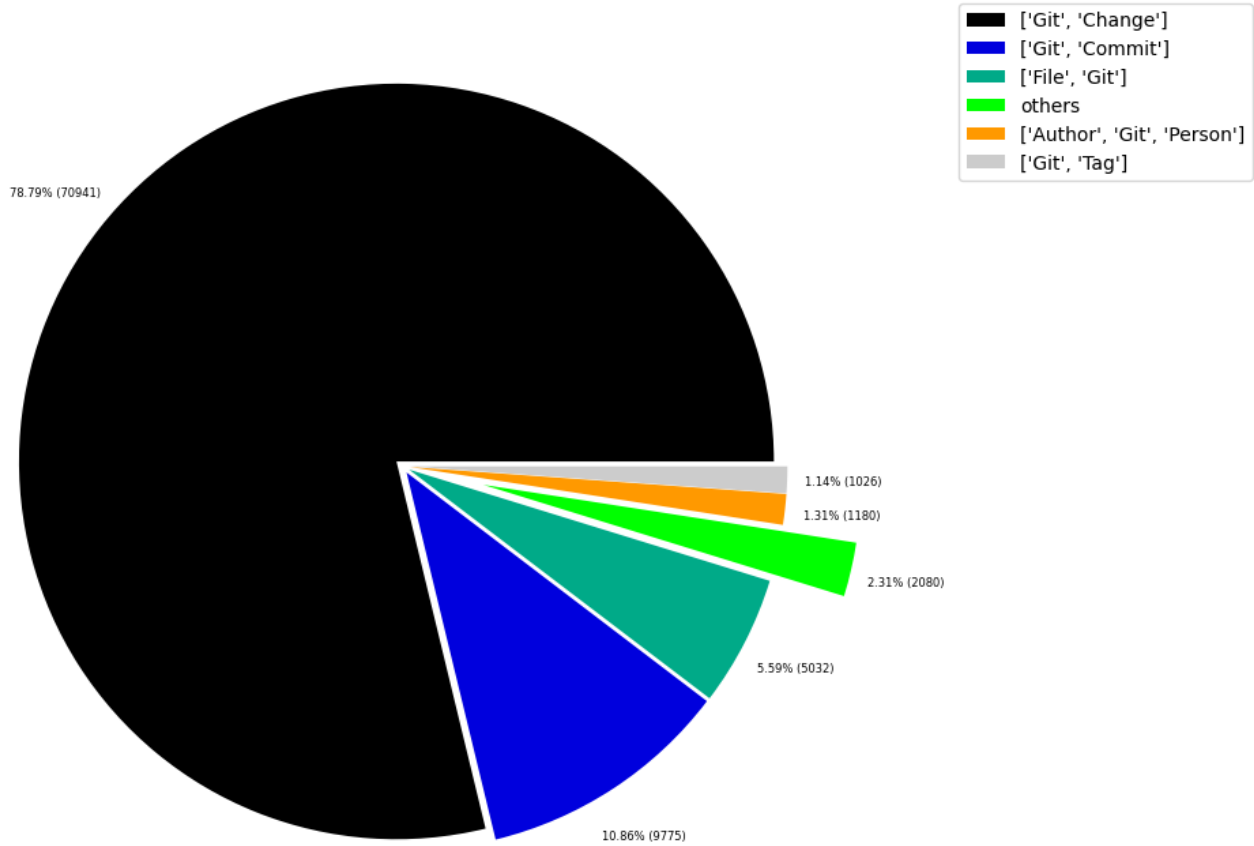


Table 1b - Lowest node count by label combination

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	0.001111
1	[File, TS, Scan]	1	0.001111
2	[TS, Class]	1	0.001111
3	[Repository, File, Git]	1	0.001111
4	[TS, Method]	1	0.001111
5	[TS, ObjectMember, Value]	1	0.001111
6	[TS, Constructor]	1	0.001111
7	[TS, Enum]	2	0.002221
8	[TS, Object, Value]	3	0.003332
9	[Type, TS, Tuple, ExternalType]	3	0.003332
10	[TS, Function, Value]	4	0.004443
11	[TS, TypeParameter]	4	0.004443
12	[TS, Value, Complex]	5	0.005553
13	[Project, TS]	6	0.006664
14	[File, Local]	6	0.006664
15	[Type, TS, TypeParameterReference, ExternalType]	6	0.006664
16	[TS, Value, Call]	6	0.006664
17	[File, TS, Local, Module]	6	0.006664
18	[TS, Value, Member]	6	0.006664
19	[TS, EnumMember]	8	0.008886
20	[Type, TS, NotIdentified, ExternalType]	11	0.012218
21	[TS, Declared, Value]	13	0.014439
22	[TS, TypeAlias]	14	0.015550
23	[File, Local, Directory]	16	0.017771
24	[File, Directory]	16	0.017771
25	[Type, TS, Intersection, ExternalType]	17	0.018882
26	[TS, Interface]	18	0.019992
27	[jQAssistant, Rule, Concept]	19	0.021103
28	[TS, Literal, Value]	20	0.022214
29	[Git, Branch]	24	0.026657

## 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.

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Nodes per label combination (less than 0.5% overall)

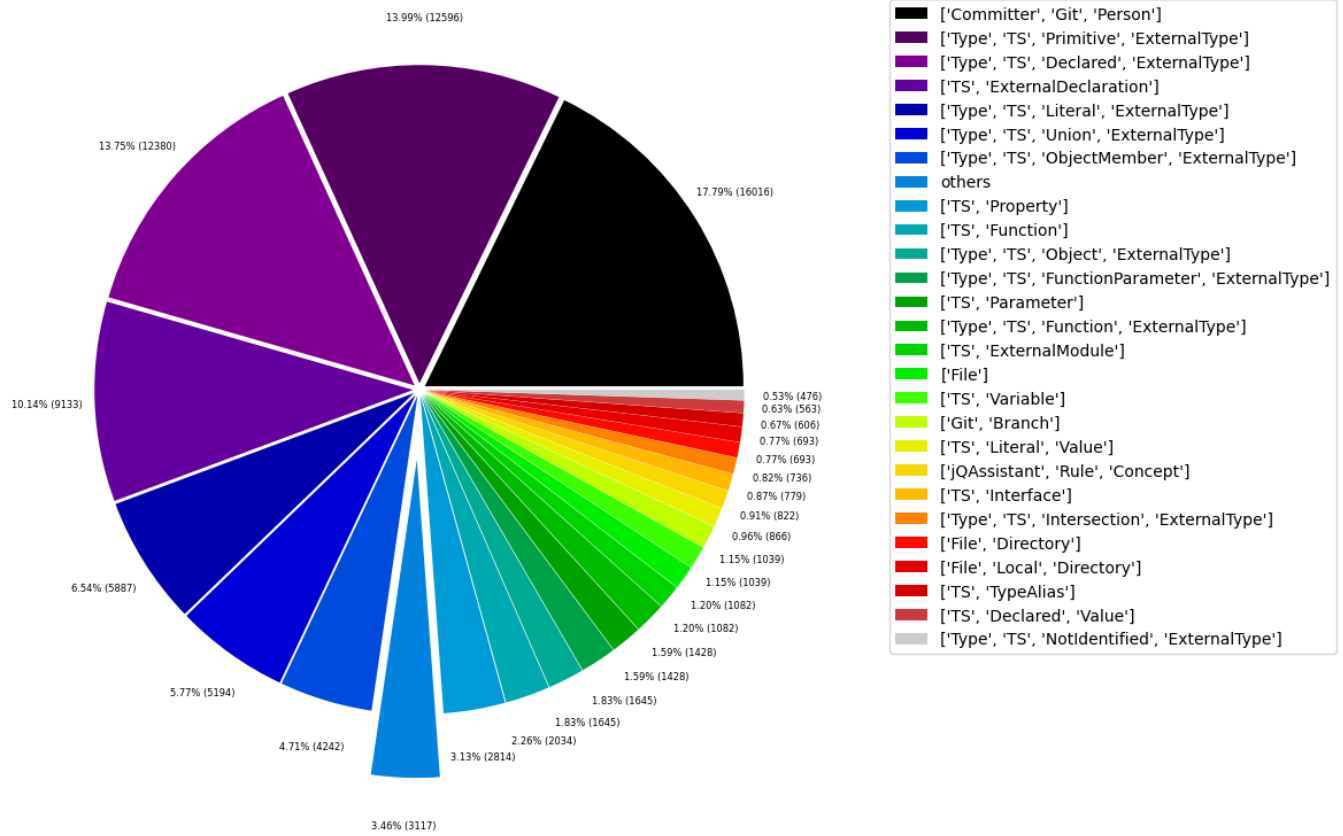


Table 1c - Highest node count by single label

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.

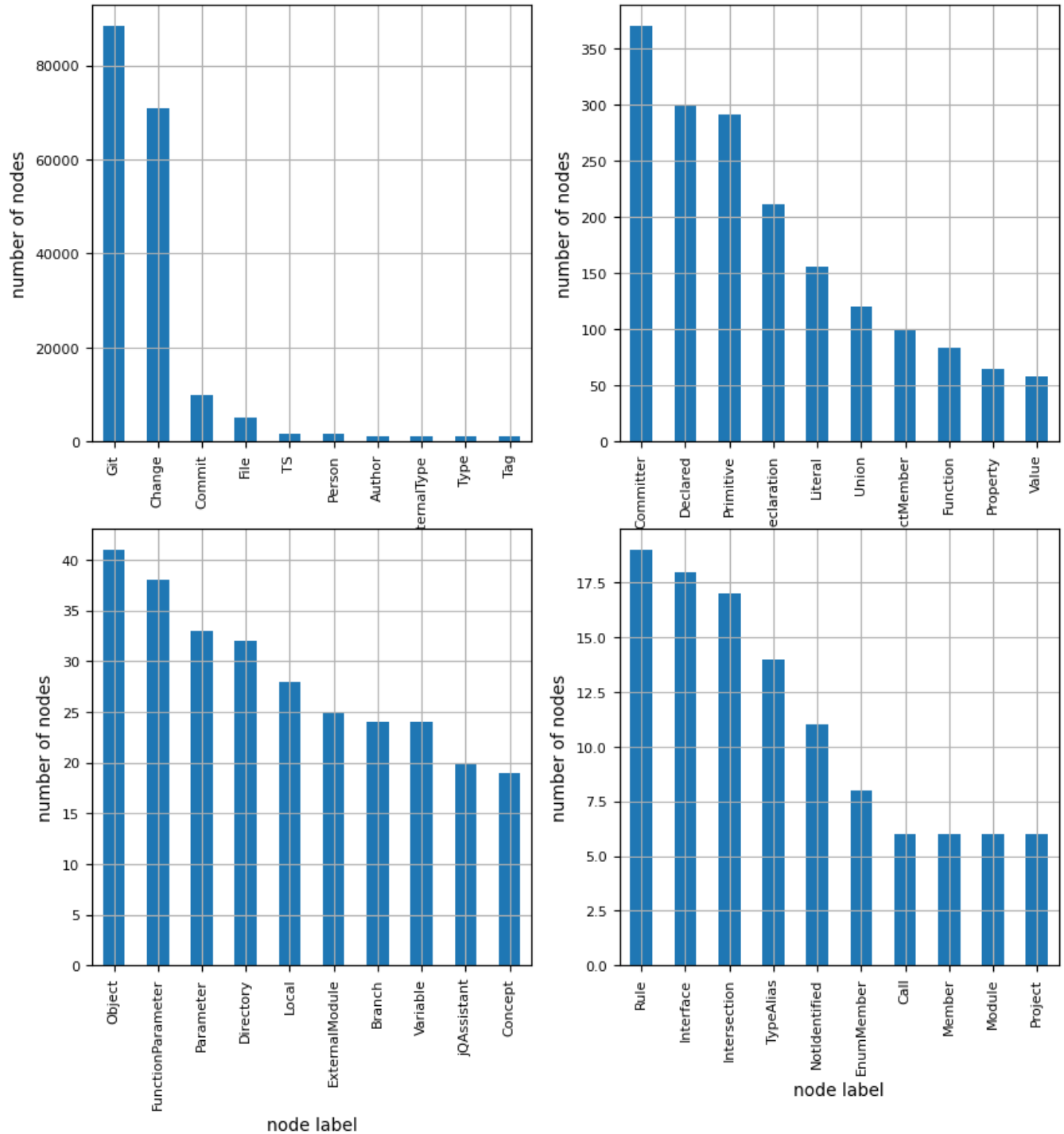
	nodeLabel	nodesWithThatLabel	nodesWithThatLabelPercent
0	Git	88349	98.128485
1	Change	70941	78.793567
2	Commit	9775	10.857010
3	File	5103	5.667859
4	TS	1602	1.779328
5	Person	1550	1.721572
6	Author	1180	1.310616
7	ExternalType	1077	1.196215
8	Type	1077	1.196215
9	Tag	1026	1.139569
10	Committer	370	0.410956
11	Declared	299	0.332097
12	Primitive	291	0.323211
13	ExternalDeclaration	211	0.234356
14	Literal	156	0.173268
15	Union	120	0.133283
16	ObjectMember	99	0.109958
17	Function	84	0.093298
18	Property	65	0.072195
19	Value	58	0.064420
20	Object	41	0.045538
21	FunctionParameter	38	0.042206
22	Parameter	33	0.036653
23	Directory	32	0.035542
24	Local	28	0.031099
25	ExternalModule	25	0.027767
26	Branch	24	0.026657
27	Variable	24	0.026657
28	jQAssistant	20	0.022214
29	Concept	19	0.021103
30	Rule	19	0.021103
31	Interface	18	0.019992
32	Intersection	17	0.018882
33	TypeAlias	14	0.015550
34	NotIdentified	11	0.012218
35	EnumMember	8	0.008886
36	Call	6	0.006664
37	Member	6	0.006664
38	Module	6	0.006664
39	Project	6	0.006664

## Chart 1c - Highest node count by label

Shows the 40 labels with the highest number of nodes.

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## 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: 271584

	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	CONTAINS_CHANGE	70941	26.121200
1	MODIFIES	70941	26.121200
2	UPDATES	47209	17.382836
3	COMMITTED	19550	7.198509
4	CREATES	16563	6.098666
5	HAS_PARENT	10764	3.963415
6	DELETES	9857	3.629448
7	HAS_COMMIT	9775	3.599255
8	HAS_FILE	5032	1.852834
9	RENAMES	2688	0.989749
10	HAS_NEW_NAME	1541	0.567412
11	HAS_AUTHOR	1180	0.434488
12	HAS_TAG	1026	0.377784
13	ON_COMMIT	1026	0.377784
14	DEPENDS_ON	953	0.350904
15	CONTAINS	536	0.197361
16	HAS_COMMITTER	370	0.136238
17	OF_TYPE	330	0.121509
18	EXPORTS	271	0.099785
19	REFERENCES	198	0.072906
20	DECLARES	185	0.068119
21	HAS_MEMBER	99	0.036453
22	HAS_TYPE_ARGUMENT	99	0.036453
23	RETURNS	81	0.029825
24	HAS_PARAMETER	71	0.026143
25	INITIALIZED_WITH	32	0.011783
26	COPIES	29	0.010678
27	REQUIRES_CONCEPT	28	0.010310
28	RESOLVES_TO	27	0.009942
29	HAS_HEAD	25	0.009205

### 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.

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Relationship types (more than 0.5% overall)

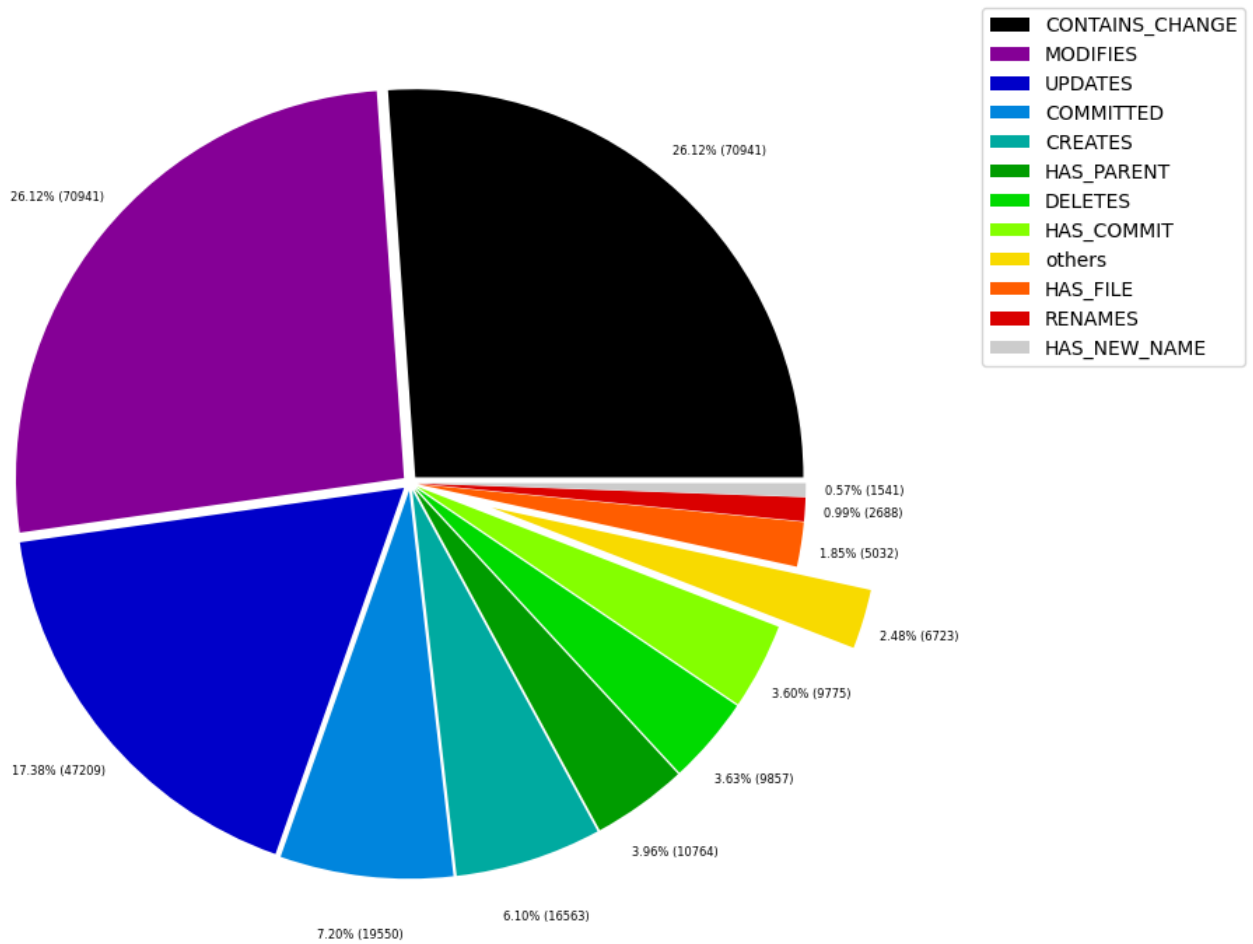


Table 2b - Lowest relationship count by type

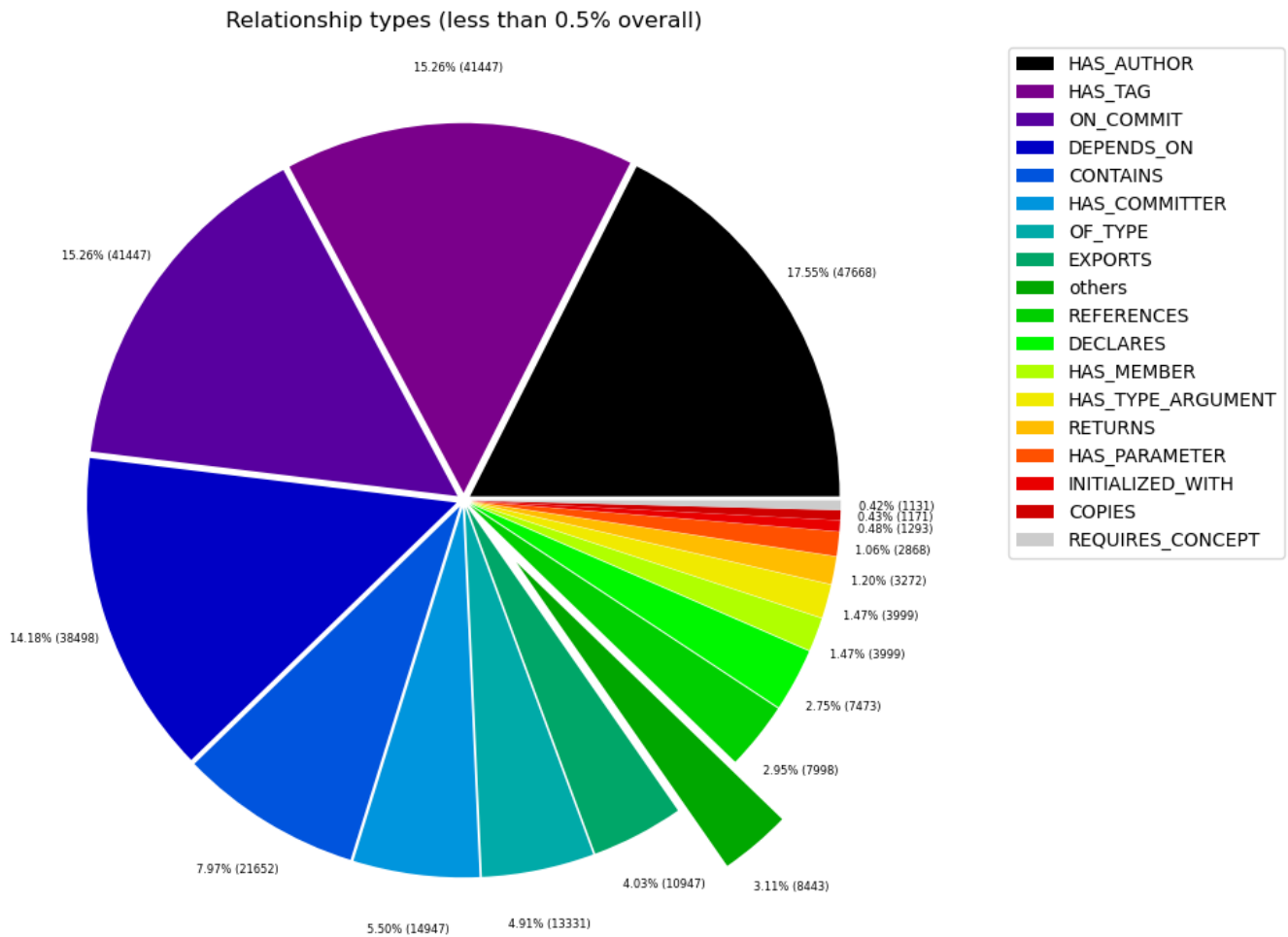
Lists the 30 relationships type with the lowest number of occurrences up to 0.5% of the total node count. This is essentially breaking down the "others" slice from the chart above.

	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	CONSTRAINED_BY	4	0.001473
1	REFERENCED_PROJECTS	5	0.001841
2	MEMBER	6	0.002209
3	HAS_ROOT	6	0.002209
4	HAS_CONFIG	6	0.002209
5	HAS_ARGUMENT	6	0.002209
6	CONTAINS_PROJECT	6	0.002209
7	CALLS	6	0.002209
8	PARENT	6	0.002209
9	EXTENDS	7	0.002577
10	SIMILAR	10	0.003682
11	INCLUDES_CONCEPT	19	0.006996
12	COPY_OF	21	0.007732
13	HAS_BRANCH	24	0.008837
14	USES	25	0.009205
15	HAS_HEAD	25	0.009205
16	RESOLVES_TO	27	0.009942
17	REQUIRES_CONCEPT	28	0.010310
18	COPIES	29	0.010678
19	INITIALIZED_WITH	32	0.011783
20	HAS_PARAMETER	71	0.026143
21	RETURNS	81	0.029825
22	HAS_TYPE_ARGUMENT	99	0.036453
23	HAS_MEMBER	99	0.036453
24	DECLARES	185	0.068119
25	REFERENCES	198	0.072906
26	EXPORTS	271	0.099785
27	OF_TYPE	330	0.121509
28	HAS_COMMITTER	370	0.136238
29	CONTAINS	536	0.197361

## 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	numberOfNodesWithSam
0	[Git, Commit]	CONTAINS_CHANGE	[Git, Change]	70941	9775	
1	[Git, Change]	MODIFIES	[File, Git]	70941	70941	
2	[Git, Change]	UPDATES	[File, Git]	47209	70941	
3	[Git, Change]	CREATES	[File, Git]	16563	70941	
4	[Git, Commit]	HAS_PARENT	[Git, Commit]	10764	9775	
5	[Git, Change]	DELETES	[File, Git]	9857	70941	
6	[Repository, File, Git]	HAS_COMMIT	[Git, Commit]	9775	1	
7	[Author, Git, Person]	COMMITTED	[Git, Commit]	9775	1180	
8	[Committer, Git, Person]	COMMITTED	[Git, Commit]	9775	370	
9	[Repository, File, Git]	HAS_FILE	[File, Git]	5032	1	
10	[Git, Change]	RENAMES	[File, Git]	2688	70941	
11	[File, Git]	HAS_NEW_NAME	[File, Git]	1541	5032	
12	[Repository, File, Git]	HAS_AUTHOR	[Author, Git, Person]	1180	1	
13	[Repository, File, Git]	HAS_TAG	[Git, Tag]	1026	1	
14	[Git, Tag]	ON_COMMIT	[Git, Commit]	1026	1026	
15	[Repository, File, Git]	HAS_COMMITTER	[Committer, Git, Person]	370	1	
16	[TS, Function]	DEPENDS_ON	[TS, ExternalDeclaration]	280	47	
17	[TS, ExternalModule]	EXPORTS	[TS, ExternalDeclaration]	211	25	
18	[Type, TS, Union, ExternalType]	CONTAINS	[Type, TS, Primitive, ExternalType]	149	120	
19	[File, TS, Local, Module, Mark4ModuleWeaklyCon...	DEPENDS_ON	[TS, ExternalDeclaration]	148	1	
20	[Type, TS, Declared, ExternalType]	REFERENCES	[TS, ExternalDeclaration]	139	286	
21	[TS, Function]	DEPENDS_ON	[TS, ExternalModule]	129	47	
22	[Type, TS, Union, ExternalType]	CONTAINS	[Type, TS, Literal, ExternalType]	119	120	
23	[Type, TS, Object, ExternalType]	HAS_MEMBER	[Type, TS, ObjectMember, ExternalType]	98	38	
24	[Type, TS, Union, ExternalType]	CONTAINS	[Type, TS, Declared, ExternalType]	78	120	
25	[TS, Interface]	DECLARES	[TS, Property]	61	18	
26	[TS, Property]	OF_TYPE	[Type, TS, Union, ExternalType]	46	65	
27	[File, Directory]	CONTAINS	[File]	46	16	
28	[TS, Variable]	DEPENDS_ON	[TS, ExternalDeclaration]	44	24	
29	[Type, TS, Declared, ExternalType]	HAS_TYPE_ARGUMENT	[Type, TS, Declared, ExternalType]	43	286	

## Graph Density

total\_number\_of\_nodes (vertices): 90034

total\_number\_of\_relationships (edges): 271584

-> total directed graph density: 3.350394242416776e-05

-> total directed graph density in percent: 0.003350394242416776