

# 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`.

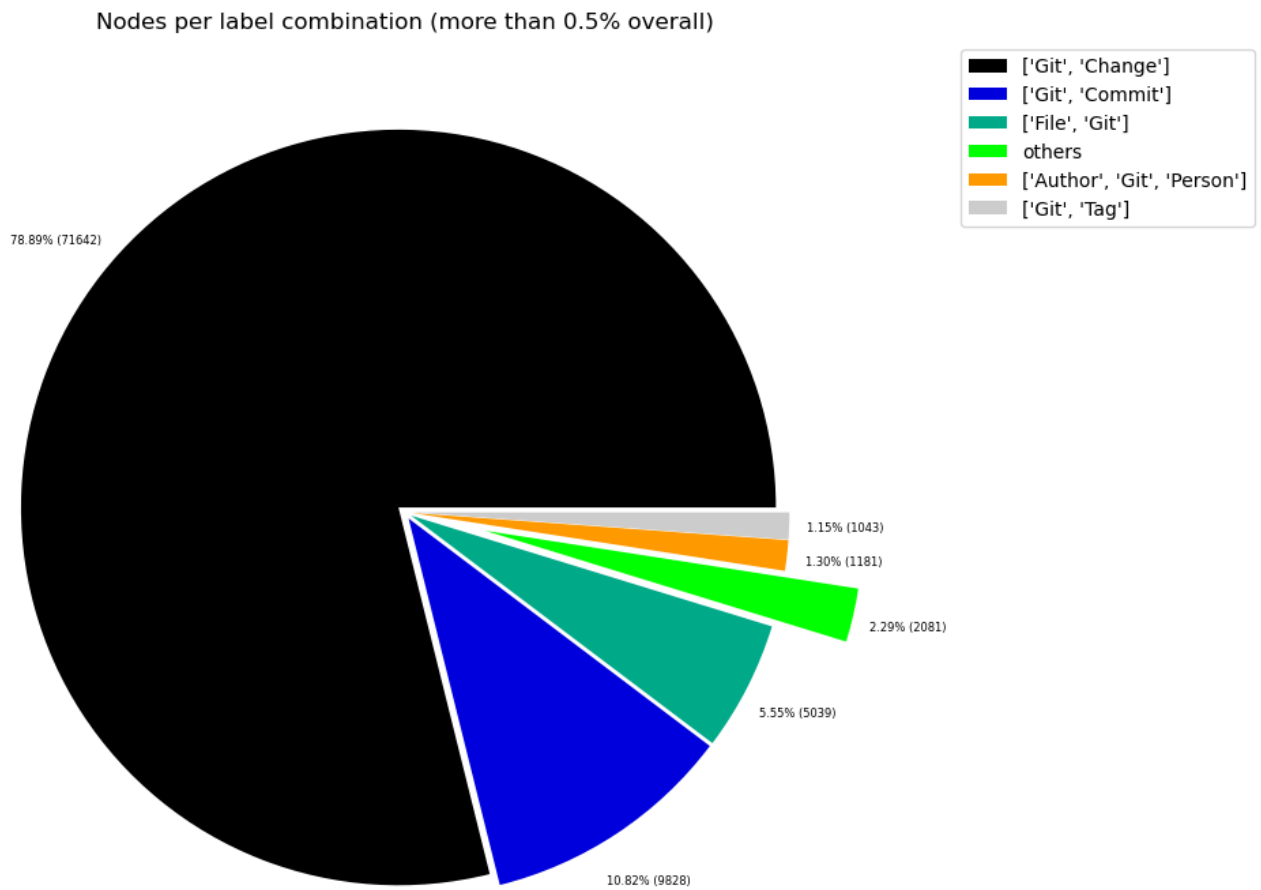
Total number of nodes: 90814

	nodeLabels	nodesWithThatLabels	nodesWithThatLabelsPercent
0	[Git, Change]	71642	78.888718
1	[Git, Commit]	9828	10.822120
2	[File, Git]	5039	5.548704
3	[Author, Git, Person]	1181	1.300460
4	[Git, Tag]	1043	1.148501
5	[Committer, Git, Person]	371	0.408527
6	[Type, TS, Primitive, ExternalType]	291	0.320435
7	[Type, TS, Declared, ExternalType]	286	0.314929
8	[TS, ExternalDeclaration]	211	0.232343
9	[Type, TS, Literal, ExternalType]	136	0.149757
10	[Type, TS, Union, ExternalType]	120	0.132138
11	[Type, TS, ObjectMember, ExternalType]	98	0.107913
12	[TS, Property]	65	0.071575
13	[TS, Function]	47	0.051754
14	[Type, TS, Object, ExternalType]	38	0.041844
15	[Type, TS, FunctionParameter, ExternalType]	38	0.041844
16	[TS, Parameter]	33	0.036338
17	[Type, TS, Function, ExternalType]	33	0.036338
18	[TS, ExternalModule]	25	0.027529
19	[File]	25	0.027529
20	[TS, Variable]	24	0.026428
21	[Git, Branch]	24	0.026428
22	[TS, Literal, Value]	20	0.022023
23	[jqAssistant, Rule, Concept]	19	0.020922
24	[TS, Interface]	18	0.019821
25	[Type, TS, Intersection, ExternalType]	17	0.018720
26	[File, Local, Directory]	16	0.017618
27	[File, Directory]	16	0.017618
28	[TS, TypeAlias]	14	0.015416
29	[TS, Declared, Value]	13	0.014315

## 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	0.001101
1	[File, TS, Scan]	1	0.001101
2	[TS, Class]	1	0.001101
3	[Repository, File, Git]	1	0.001101
4	[TS, Method]	1	0.001101
5	[TS, ObjectMember, Value]	1	0.001101
6	[TS, Constructor]	1	0.001101
7	[TS, Enum]	2	0.002202
8	[TS, Object, Value]	3	0.003303
9	[Type, TS, Tuple, ExternalType]	3	0.003303
10	[TS, Function, Value]	4	0.004405
11	[TS, TypeParameter]	4	0.004405
12	[TS, Value, Complex]	5	0.005506
13	[Project, TS]	6	0.006607
14	[File, Local]	6	0.006607
15	[Type, TS, TypeParameterReference, ExternalType]	6	0.006607
16	[TS, Value, Call]	6	0.006607
17	[File, TS, Local, Module]	6	0.006607
18	[TS, Value, Member]	6	0.006607
19	[TS, EnumMember]	8	0.008809
20	[Type, TS, NotIdentified, ExternalType]	11	0.012113
21	[TS, Declared, Value]	13	0.014315
22	[TS, TypeAlias]	14	0.015416
23	[File, Local, Directory]	16	0.017618
24	[File, Directory]	16	0.017618
25	[Type, TS, Intersection, ExternalType]	17	0.018720
26	[TS, Interface]	18	0.019821
27	[jQAssistant, Rule, Concept]	19	0.020922
28	[TS, Literal, Value]	20	0.022023
29	[Git, Branch]	24	0.026428

## 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)

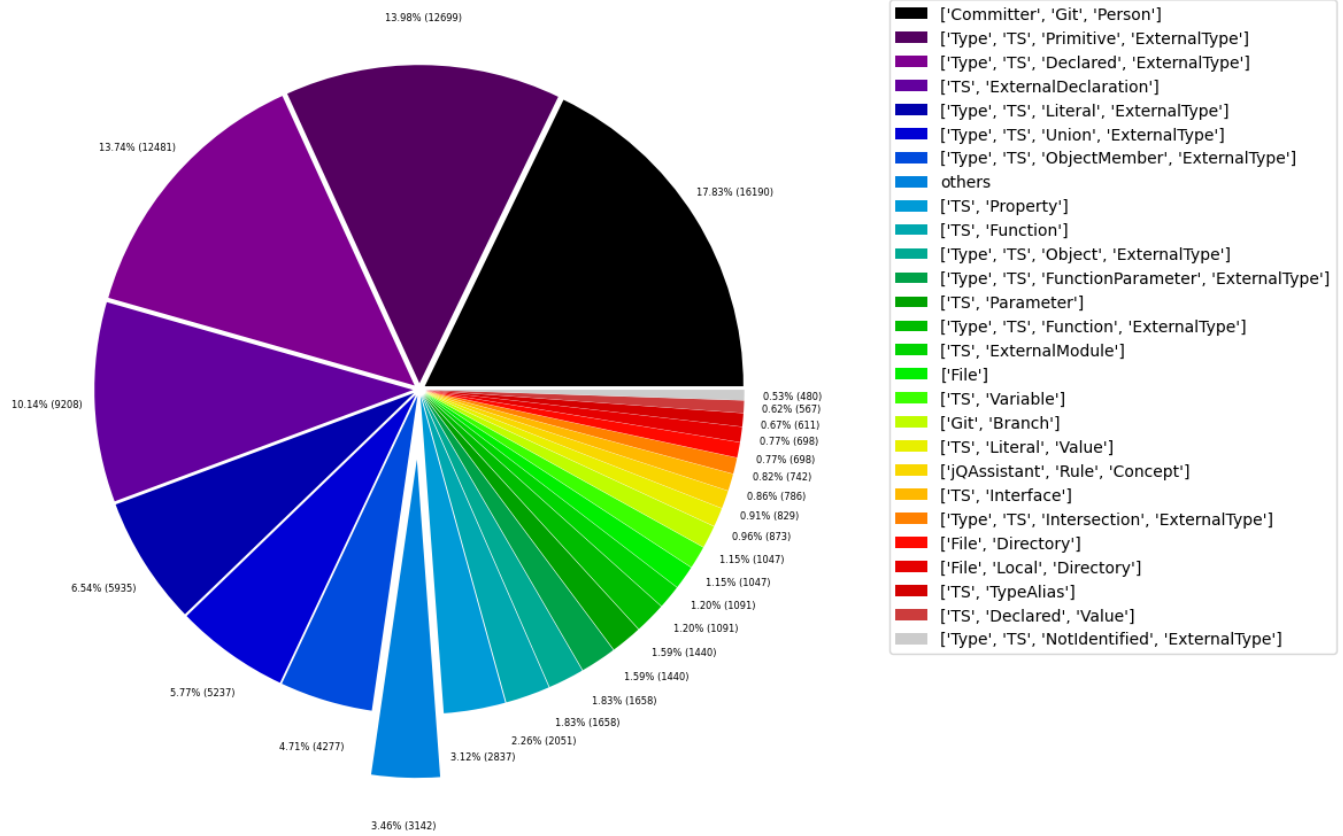


Table 1c - Highest node count by single label

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.

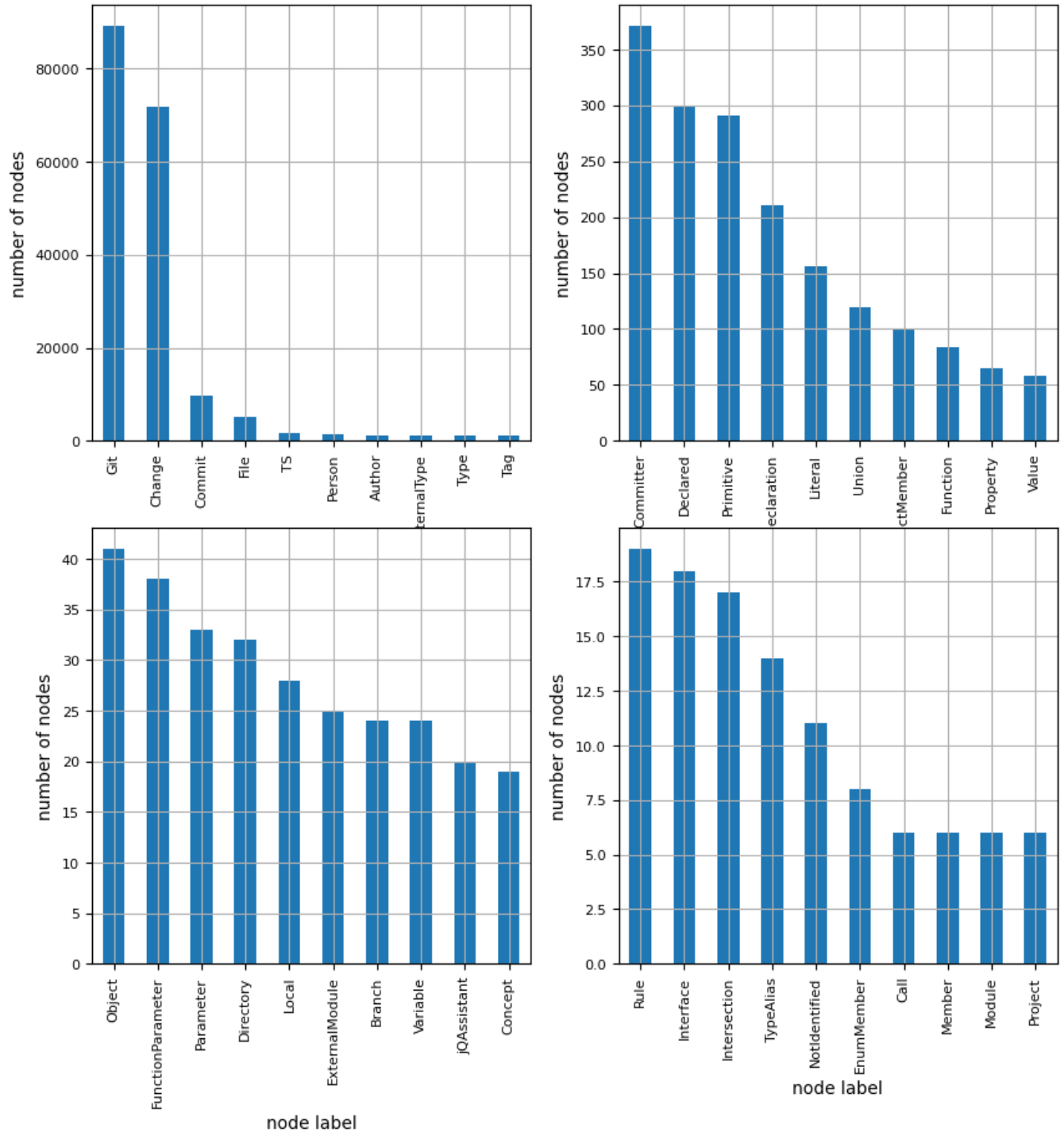
	nodeLabel	nodesWithThatLabel	nodesWithThatLabelPercent
0	Git	89129	98.144559
1	Change	71642	78.888718
2	Commit	9828	10.822120
3	File	5110	5.626886
4	TS	1602	1.764045
5	Person	1552	1.708988
6	Author	1181	1.300460
7	ExternalType	1077	1.185940
8	Type	1077	1.185940
9	Tag	1043	1.148501
10	Committer	371	0.408527
11	Declared	299	0.329244
12	Primitive	291	0.320435
13	ExternalDeclaration	211	0.232343
14	Literal	156	0.171780
15	Union	120	0.132138
16	ObjectMember	99	0.109014
17	Function	84	0.092497
18	Property	65	0.071575
19	Value	58	0.063867
20	Object	41	0.045147
21	FunctionParameter	38	0.041844
22	Parameter	33	0.036338
23	Directory	32	0.035237
24	Local	28	0.030832
25	ExternalModule	25	0.027529
26	Branch	24	0.026428
27	Variable	24	0.026428
28	jqAssistant	20	0.022023
29	Concept	19	0.020922
30	Rule	19	0.020922
31	Interface	18	0.019821
32	Intersection	17	0.018720
33	TypeAlias	14	0.015416
34	NotIdentified	11	0.012113
35	EnumMember	8	0.008809
36	Call	6	0.006607
37	Member	6	0.006607
38	Module	6	0.006607
39	Project	6	0.006607

## 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: 273973

	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	CONTAINS_CHANGE	71642	26.149292
1	MODIFIES	71642	26.149292
2	UPDATES	47819	17.453910
3	COMMITTED	19656	7.174430
4	CREATES	16635	6.071766
5	HAS_PARENT	10823	3.950389
6	DELETES	9888	3.609115
7	HAS_COMMIT	9828	3.587215
8	HAS_FILE	5039	1.839232
9	RENAMES	2700	0.985499
10	HAS_NEW_NAME	1542	0.562829
11	HAS_AUTHOR	1181	0.431064
12	HAS_TAG	1043	0.380694
13	ON_COMMIT	1043	0.380694
14	DEPENDS_ON	953	0.347844
15	CONTAINS	536	0.195640
16	HAS_COMMITTER	371	0.135415
17	OF_TYPE	330	0.120450
18	EXPORTS	271	0.098915
19	REFERENCES	198	0.072270
20	DECLARES	185	0.067525
21	HAS_MEMBER	99	0.036135
22	HAS_TYPE_ARGUMENT	99	0.036135
23	RETURNS	81	0.029565
24	HAS_PARAMETER	71	0.025915
25	INITIALIZED_WITH	32	0.011680
26	COPIES	29	0.010585
27	REQUIRES_CONCEPT	28	0.010220
28	RESOLVES_TO	27	0.009855
29	HAS_HEAD	25	0.009125

### 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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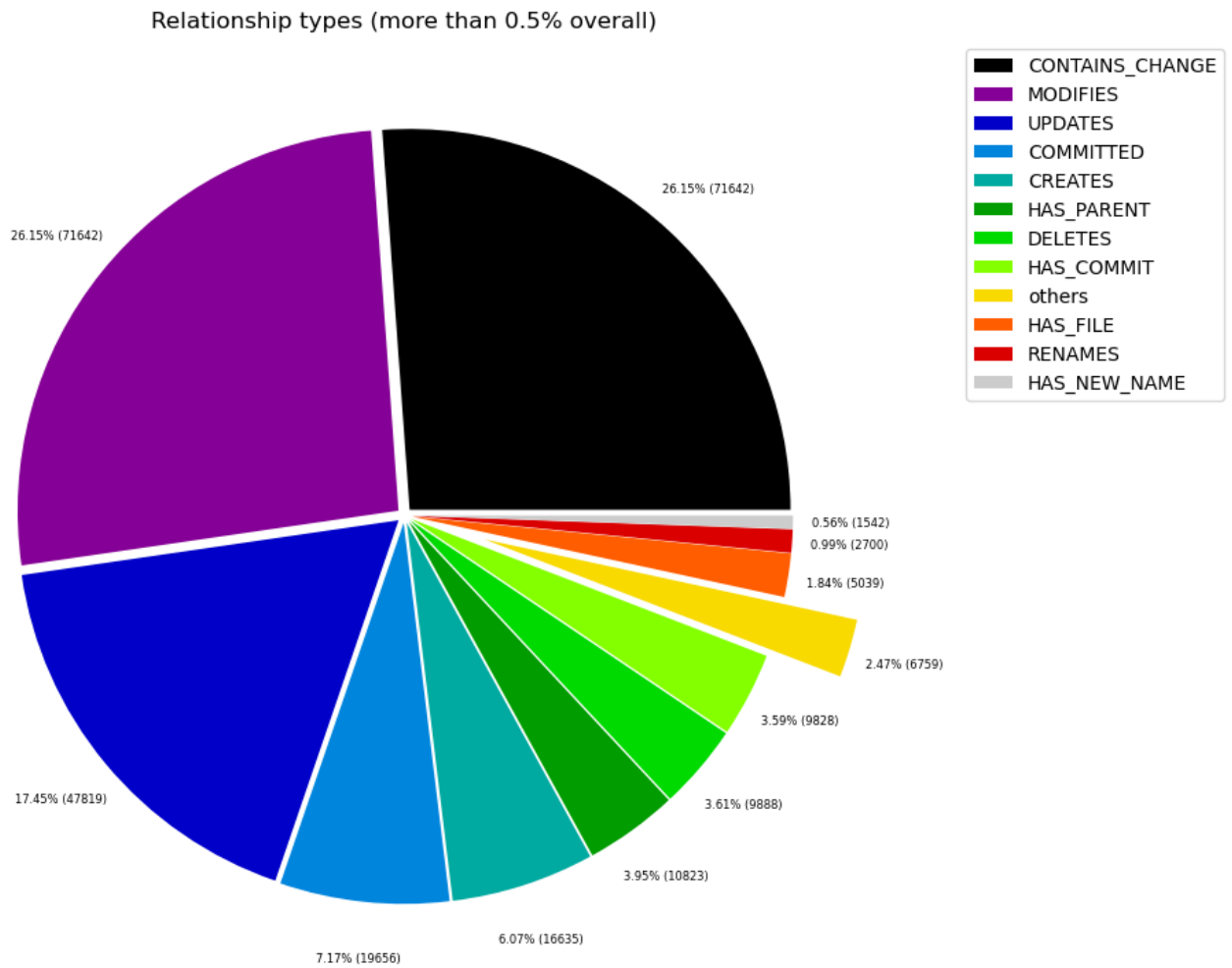


Table 2b - Lowest relationship count by type

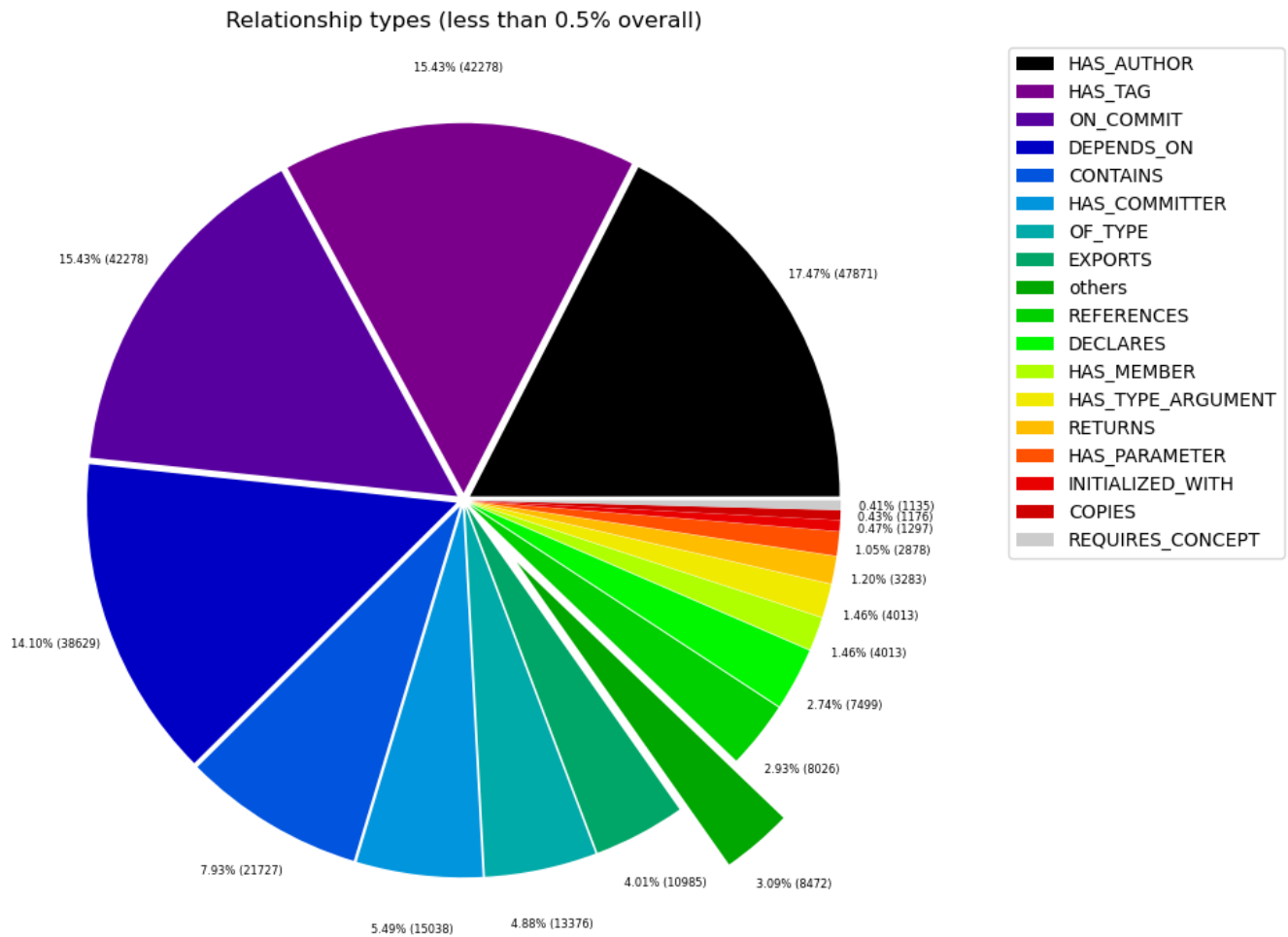
Lists the 30 relationships type with the lowest number of occurrences up to 0.5% of the total node count. This is essentially breaking down the "others" slice from the chart above.

	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	CONSTRAINED_BY	4	0.001460
1	REFERENCED_PROJECTS	5	0.001825
2	MEMBER	6	0.002190
3	HAS_ROOT	6	0.002190
4	HAS_CONFIG	6	0.002190
5	HAS_ARGUMENT	6	0.002190
6	CONTAINS_PROJECT	6	0.002190
7	CALLS	6	0.002190
8	PARENT	6	0.002190
9	EXTENDS	7	0.002555
10	SIMILAR	10	0.003650
11	INCLUDES_CONCEPT	19	0.006935
12	COPY_OF	21	0.007665
13	HAS_BRANCH	24	0.008760
14	USES	25	0.009125
15	HAS_HEAD	25	0.009125
16	RESOLVES_TO	27	0.009855
17	REQUIRES_CONCEPT	28	0.010220
18	COPIES	29	0.010585
19	INITIALIZED_WITH	32	0.011680
20	HAS_PARAMETER	71	0.025915
21	RETURNS	81	0.029565
22	HAS_TYPE_ARGUMENT	99	0.036135
23	HAS_MEMBER	99	0.036135
24	DECLARES	185	0.067525
25	REFERENCES	198	0.072270
26	EXPORTS	271	0.098915
27	OF_TYPE	330	0.120450
28	HAS_COMMITTER	371	0.135415
29	CONTAINS	536	0.195640

## 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]	71642	9828	
1	[Git, Change]	MODIFIES	[File, Git]	71642	71642	
2	[Git, Change]	UPDATES	[File, Git]	47819	71642	
3	[Git, Change]	CREATES	[File, Git]	16635	71642	
4	[Git, Commit]	HAS_PARENT	[Git, Commit]	10823	9828	
5	[Git, Change]	DELETES	[File, Git]	9888	71642	
6	[Repository, File, Git]	HAS_COMMIT	[Git, Commit]	9828	1	
7	[Author, Git, Person]	COMMITTED	[Git, Commit]	9828	1181	
8	[Committer, Git, Person]	COMMITTED	[Git, Commit]	9828	371	
9	[Repository, File, Git]	HAS_FILE	[File, Git]	5039	1	
10	[Git, Change]	RENAMES	[File, Git]	2700	71642	
11	[File, Git]	HAS_NEW_NAME	[File, Git]	1542	5039	
12	[Repository, File, Git]	HAS_AUTHOR	[Author, Git, Person]	1181	1	
13	[Repository, File, Git]	HAS_TAG	[Git, Tag]	1043	1	
14	[Git, Tag]	ON_COMMIT	[Git, Commit]	1043	1043	
15	[Repository, File, Git]	HAS_COMMITTER	[Committer, Git, Person]	371	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): 90814

total\_number\_of\_relationships (edges): 273973

-> total directed graph density: 3.32205591064198e-05

-> total directed graph density in percent: 0.00332205591064198