

LDA2Net: Digging under the surface of COVID-19 topics in literature

Topic 28 companion sheet

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This file contains the following supplementary information for Topic 28 of the manuscript “*LDA2Net: Digging under the surface of COVID-19 topics in scientific literature*”:

- Human label and automatic n-gram label proposals (Table 1)
- Summary measures (Table 2)
- Network of top 25 bigrams (Figure 1)
- Wordclouds of top 25 words by node relevance measure (Figure 2)
- Wordclouds of top 25 bigrams by edge relevance measure (Figure 3)
- Filtered (0.99 percentile) topic network (Figure 4)

Table 1: Human and automatic label proposals. Automatic label candidate for largest word community of the topic. In parenthesis: absolute frequency of the walk out of a sample of size 1000.

Human label	2-gram label	3-gram label	4-gram label
methodological approaches	approach->problem (6.5%)	set->theory->method (2.2%)	approach->problem->time->algorithm (1.4%)

Here follows the set of topic-specific measures that have been used to classify the topic and to analyse its structural properties (see manuscript for details):

Table 2: Summary measures

	JSD	Mean propensity	Variance propensity	Modularity	Barrat Clustering Coeff.
value	0.528010	0.009239	0.000656	0.193839	0.528776
rank	11	101	103	105	15

Based on the aforementioned measures, Topic 28 has been classified as a SPECIALIZED topic.

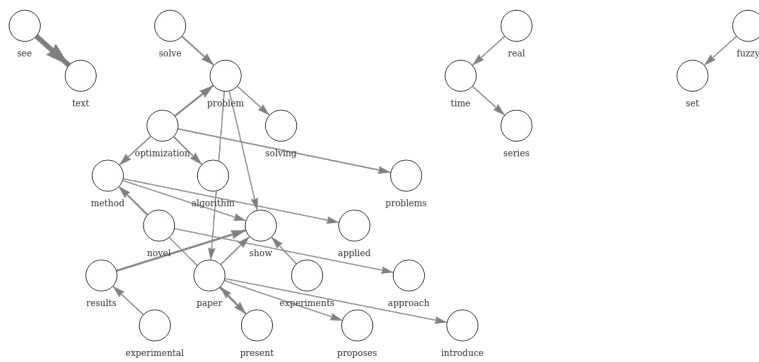


Figure 1: Network of top 25 bigrams (i.e., edges) by weight.

A word cloud of terms related to the paper, with 'see text' as the largest words. Other prominent words include 'numerical', 'optimization', 'novel results', 'solution', 'problems', 'solve', 'one', 'show', 'time', 'new', 'method', 'present', 'experiments', 'computational', 'approach', 'work', 'algorithm', 'paper', 'given', and 'solving'.

A word cloud of terms related to image processing and computer vision. The most prominent words are 'show', 'text', 'image', 'algorithm', and 'method'. Other visible words include 'approach', 'applied', 'problems', 'see', 'problem', 'work', 'solving', 'called', 'time', 'introduce', 'present', 'presented', 'paper', 'solve', 'demonstrate', 'presents', 'one', 'results', 'given', 'solution', and 'approach'. The words are arranged in a circular pattern, with 'show' and 'text' being the largest and most central.

A word cloud featuring various terms related to computer science and mathematics. The most prominent words are 'problem', 'show', 'method', 'algorithm', 'approach', 'present', 'problems', 'number', 'series', 'optimization', 'text', 'paper', 'image', 'one', 'solution', 'result', 'solve', 'given', 'allows', 'applied', 'time', 'space', 'system', 'set', and 'solving'. The words are arranged in a circular pattern, with 'problem' and 'show' being the largest and most central.

Out-degree

Betweenness

PageRank

Figure 2: Top 25 unigrams (i.e., nodes) by measure.

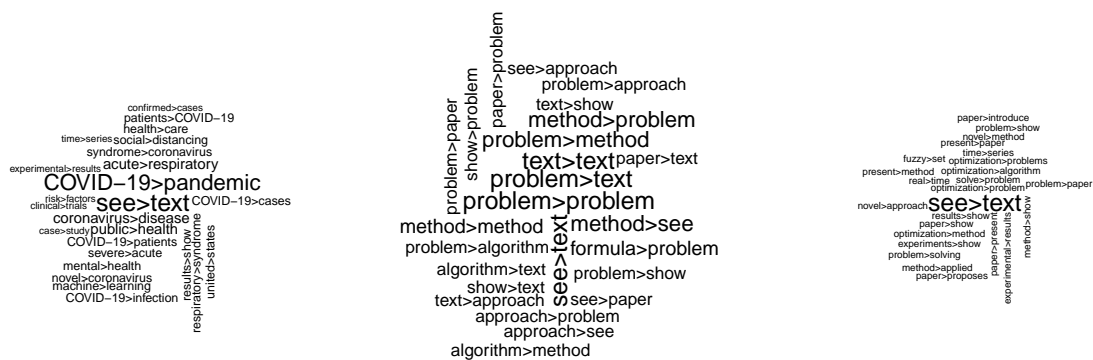


Figure 3: Top 25 bigrams (i.e., edges) by measure.

