Review of: "A method to reduce false positives in a patent query"

Tony Russell-Rose[1]

1 Goldsmiths, University of London

Potential competing interests: No potential competing interests to declare.

I've not reviewed for this journal before so I hope this is the sort of thing you're looking for.

In general, I found this paper an interesting read, with a strong practitioner focus (which can be rare in IR). What follows are my observations in order of appearance in the paper (not priority).

P2: Well cited introduction, good backgrounder

P2: The framing is a bit odd... normally you'd frame the issue in terms of precision and recall, rather than 'reducing false positives'. This framing underplays the tension between these two metrics, in that optimizing for one generally harms the other. Are false negatives not considered important? This needs explaining

P4: Typo 'be propose' -> 'we propose'

P4: talks about 'classification in common' - is this the same as simple co-occurrence?

P5: Fig 1 shows a fully connected network, but wouldn't this be something of an edge case?

P6: Is Fig 3 a 2d projection of an inherently multi-dimensional space, or has there been some dimensionality reduction down to 2d before plotting? If so, how was this done? A 2d projection is most likely a lossy representation of the true topology, so this step seems crucial

P6: Likewise, what layout heuristics are used to produce the network image? This step seems crucial but isn't really explained

P6: claims that all classifications should be connected – do you mean directly (see above re edge cases) or indirectly, via 3rd party nodes?

P7: claims that fig 3 has 8 components, but I can't see them - Maybe some annotation would help here

P7: states that '95% of the time components reflects a mistake in the query'. I don't follow – are you saying a smaller number of components would not be a mistake? Or any number of components? And what is a mistake anyway – you mean some sort of syntactic or semantic error?

P7: The concept of a mistake is a bit subjective – how do you know it is a mistake without some sort of a priori / ground

truth data (or directly interrogating the author of the query)?

P7: claims that 9 communities were easily identifiable – you mean by eye? There's a risk here that this becomes somewhat subjective, particularly if the observer is untrained. How could this be made more robust / repeatable?

P8: talks about the core community 'in the center', but this raises the layout issue above (how do things get to the center in the first place)

P8: what are 'gatekeepers'?

P9: The conclusions would be stronger if the paper used more than one example

So overall, I think this is interesting paper, with some innovative ideas and clear impact, but it lacks a formal (objective) evaluation. I don't know how important you consider this to be. Most of my comments above are about the way the work is described, rather than flaws with the methodology, so in that respect they should be addressable.