Promote Serendipitous Discovery of Academic Literature

Have a Set of Seed Papers?
Find semantically related papers that do not necessarily have shared keywords by search based on one or more known seed papers in an n-D embedding space...

Have a Working Title & Abstract?
Find semantically related papers by n-dimensional search based on the author’s own unpublished ideas in the form of sentences / abstracts.

Problems with Literature Reviews
- Inconsistent / missing keywords
- Less cited but relevant papers not discoverable

Using Transformers & Visual Analytics,
1. Search by a set of seed papers
2. Search by a working title & abstract

Web Scrapers
59k VIS Papers
Web UI
(38 VIS-research venues, 47 years, and 82k authors)

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VitaLITy: Promoting Serendipitous Discovery of Academic Literature with Transformers & Visual Analytics

There are a few prominent practices for conducting reviews of academic literature, including searching for specific keywords on Google Scholar or checking citations from some initial seed papers. There remain challenges in identifying relevant literature when similar work may utilize different terminology (e.g., mixed-initiative visual analytics papers may not use the same terminology as papers on model-interpretation techniques). We used VitaLITy for its own Literature Review!

Similar papers appear near each other via the UMAP Dimension Reduction technique.

Where else can we apply VitaLITy?

Beyond VIS...
- Physics
- Medical
- Maths
- Patents
- eCFR

Beyond Papers...
- Datasets