Supplementary Material to
“Analytical Methods for Interpretable Ultradense Word Embeddings”

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1 Code
The code which was used to conduct the experiments in this paper is available at https://github.com/pdufter/densray.

2 Continuous Lexicon
In case of a continuous lexicon $l : V \rightarrow \mathbb{R}$ one can extend Equation 2 in the main paper by defining:

$$A := \sum_{(v,w) \in V \times V} -l(v)l(w)d_{vw}d_{vw}^\top$$

In the case of a binary lexicon Equation 2 from the main paper is recovered for $\alpha_\neq = \alpha_\approx = 1$.

3 Full Analogy Results
In this section we present the results of the word analogy task per category. See Table 1 and Table 2 for detailed results with the methods IntCos Complement and Original, respectively. The format and numbers presented are the same as in the corresponding table from the main paper.
## Table 1: Detailed results for all combinations of FastText/Google News embeddings and Google Analogy and BATS analogies. In this table the cosine similarity is computed in the orthogonal complement. See the main paper for more details.
Table 2: Detailed results for all combinations of FastText/Google News embeddings and Google Analogy and BATS analogies. In this table the cosine similarity is computed in the original space. See the main paper for more details.