Bounding Eccentricities

Very Large Graphs

Abstract

This paper is a summary of our research and development of the Bounding Eccentricities algorithm introduced in the 2013 article Computing the Eccentricity Distribution of Large Graphs by Frank W. Takes and Walter A. Kosters. In this report we restate all of the methodologies from the original paper that were applied during the implementation of the Bounding Eccentricities algorithm, as well as any other external concepts originating from other research on the same topic. We also show the results of various experiments using the same performance measures as in the original paper for the sake of simplifying comparison. Additionally, we also show the relative improvement brought forth by of all of the main methodologies introduced in the paper over previous versions, namely selection strategies and graph prunning.

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1 Experiments

In this section we present some performance analysis of our implementation of this algorithm. To assess the performance of our implementation with respect to the results found in section 6 of the paper TODO we provide some of the same performance analysis. We have thus measured the number of execution of our shortest path search algorithm required to compute all of the eccentricities on the pruned graph.

2 References