Accelerating Relational Keyword Queries With Embedded Neural Networks

1st Given Name Surname dept. name of organization (of Aff.)
name of organization (of Aff.)
City, Country
email address or ORCID 2nd Given Name Surname dept. name of organization (of Aff.)
name of organization (of Aff.)
City, Country
email address or ORCID 3rd Given Name Surname dept. name of organization (of Aff.)
name of organization (of Aff.)
City, Country
email address or ORCID 4th Given Name Surname dept. name of organization (of Aff.)
name of organization (of Aff.)
City, Country
email address or ORCID 5th Given Name Surname dept. name of organization (of Aff.)
name of organization (of Aff.)
City, Country
email address or ORCID 6th Given Name Surname dept. name of organization (of Aff.)
name of organization (of Aff.)
City, Country
email address or ORCID

Abstract—Relational keyword queries have proven to be highly effective for information retrieval. The challenge of evaluating keyword queries for relational databases is the performance bottleneck of fuzzy string matching when traditional full-text index structures. We propose a solution to overcome performance bottlenecks by incorporating horizontally partitioned full-text indexes. We rely on a neural network router to optimize the index lookup strategy to minimize index miss rate and thus maximize performance. Using textural features of the user queries, the neural network router supports fuzzy string matching. We evaluated different network architectural designs against real-world datasets. Our experiments demostrates that the neural network router can be self-trained and learn how to optimize index access effectively.

I. Introduction

Paper [?]