List of Originally Poor Queries:
1. UCI
2. THE
3. 2022
4. CODE
5. MASTER OF SOFTWARE ENGINEERING
6. OF
7. AND
8. MASTER SOFTWARE ENGINEERING COMPUTER SCIENCE
9. BE
10. master software engineering computer science degree light screen python code

The Fix:

      To fix the issue with these queries, we actually made the decision to calculate tf-idf scores after indexing but before querying. Originally we were calculating the tf-idf scores after query time, but we realized that was unnecessary. The biggest issue for this was the one term queries. Calculating the tf-idf score of a one term query was too slow and was running closer to 2 seconds, but now runs much quicker that the tf-idf score is pre-calculated. We did have an issue with MASTER OF SOFTWARE ENGINEERING, but after optimizing how we calculated results slightly by adjusting our for loop to calculate the top 10, we were able to cut it down below the 300 ms requirement. Additionally, we also updated our indexed index to do 2 letters instead of just one. This cut down the time for all our queries, and allowed us to run the 10 word query in less than 300 ms.

List of Good Queries:
1. SOFTWARE ENGINEERING
2. CRISTINA LOPES
3. MACHINE LEARNING
4. ACM
5. DUCK
6. DISCRETE RANDOM VARIABLES
7. MASTER SOFTWARE ENGINEERING
8. HOWARD GILLMAN
9. PYTHON
10. JAVASCRIPT