If you choose this option, please answer the following questions in your proposal:

1. What are the names and NetIDs of all your team members? Who is the captain? The captain will have more administrative duties than team members.

   Yuechen Liu yuechen7
   Houyuan Sha houyuan2
   Ruobin Wang ruobinw2
   Tianren Zhou tianren2 captain

2. What system have you chosen? Which subtopic(s) under the system?

   Improving A System: Expert search system

3. Briefly describe the datasets, algorithms or techniques you plan to use

   For the dataset, we can obtain the current collection of faculty pages dataset from the course TA.
   We plan to use ElasticSearch to implement our search engine.
   https://www.elastic.co/guide/en/elasticsearch/reference/current/analysis.html
   We will import the dataset to ElasticSearch and implement corresponding unstructured queries to obtain the relevant result. We will implement a python backend and html frontend, which should provide an accessible interface for the user.

4. If you are adding a function, how will you demonstrate that it works as expected? If you are improving a function, how will you show your implementation actually works better?

   We attempt to provide an alternative method to query the existing expert dataset using elastic search. In doing so, we attempt to achieve better accuracy and speed.

5. How will your code communicate with or utilize the system? It is also fine to build your own systems, just please state your plan clearly

   We plan to implement APIs in the python server. The frontend will communicate with backend using the API.

6. Which programming language do you plan to use?
   Python, reactjs, js

7. Please justify that the workload of your topic is at least 20*N hours, N being the total number of students in your team. You may list the main tasks to be completed, and the estimated time cost for each task.
   Total 20*4 = 80 hours
   - Frontend (30 hours)

- Backend - api (20 hours)
- Backend - db, search engine (30 hours)

At the final stage of your project, you need to deliver the following:

- Your documented source code.
- A demo that shows your implementation actually works. If you are improving a function, compare your results to the previously available function. If your implementation works better, show it off. If not, discuss why.