Thesis Title: Prediction of Key Factors that Affect the Students' Career Choice of CSE Students from Bangladesh using Machine Learning.

Abstract/Summary:

This thesis presents a predictive analysis of students' career paths for Computer Science and Engineering (CSE) students in Bangladesh using machine learning techniques. The rapid evolution of the CSE field and the diverse career opportunities it offers make understanding students' career trajectories crucial for educational institutions, policymakers, and career counselors. However, predicting career paths accurately is challenging due to the multifaceted nature of factors influencing career decisions.

Introduction:

Computer science and Engineering(CSE) mainly focuses on computers and their associated aspects including hardware, software, algorithms, computational theory and also chose non CSE job sector in Bangladesh. Understanding and predicting students' career paths can provide valuable insights for educational institutions, policymakers, and career counselors to better support students to achieve their professional aspirations. This thesis proposal outlines a research study aimed at utilizing machine learning techniques to predict the career path of CSE students in Bangladesh.

Related Literature Review:

Previous research has explored various aspects of **Career Path Prediction Using Machine Learning Classification Techniques globally**.However, there is a dearth of studies specifically focusing on the context of Bangladesh, particularly in the CSE domain.This thesis will review existing literature on career development theories, factors influencing career decisions, and machine learning applications in educational research.

Research Methodology:

Gather data from CSE students in Bangladesh through surveys, questionnaires etc. The dataset will encompass a wide range of variables, including demographics, academic performance metrics, various skills, extracurricular activities, internship experiences, and their preferred job.

Some factors are list down:

General question:

1. Name	2.University	3. Studying year

4. Communication skill	5.Adaptability	6.Continuous Learning
7.Teamwork	8.Problem solving skill	9.Management skill

Academic Skill:

10.Programming skill	11.Software Engineering Principal	12.Data structure and Algorithm
13.Database Management	14.Data Analysis	15.Web developing skill
16.Understanding of computer architecture and system	17.Understanding of OS	18.Networking Concept
19.Cyber Security	20.Research skill	21.current cgpa

Influencing factor:

1. Social acceptance
2. Job security
3. Job environment
4. Selary

Prefer job

1. Software Development Company
2. Bank job
3. BCS
4. Business
5. Teaching
6. Researcher
7. Govt job
8. Abroad
9. other

Expected Results:

Present the findings of the predictive analysis, including insights into significant factors affecting students' career paths in the CSE field. Discuss the implications of the results for educational institutions, policymakers, and career counselors. Compare the performance of different machine learning algorithms and highlight the strengths and limitations of the predictive models.

Significance and Implications of the Study:

The significance of this thesis proposal lies in its ability to leverage machine learning to forecast career paths for Computer Science and Engineering (CSE) students from Bangladesh. By providing insights into students' career trajectories, this research can guide educational institutions, policymakers, career counselors, and students themselves in making informed decisions about education, workforce development, and individual career aspirations.

References:

https://ijsrcseit.com/paper/CSEIT21832.pdf

https://www.internationaljournalssrg.org/IJCSE/2022/Volume9-Issue3/IJCSE-V9I3P102.pdf

https://www.researchgate.net/publication/370984871_Prediction_of_the_Computer_Science_Department's_Educational_Performance_through_Machine_Learning_Model_by_Analyzing_Students'_Academic_Statements

https://www.webology.org/abstract.php?id=2388