Project Guideline: Idea Proposal Submission

1. Project Idea:
My project is dedicated to addressing one of the most prevalent cyber threats today: phishing. Phishing, a sophisticated form of social engineering, primarily aims to illicitly acquire sensitive user data, including but not limited to login credentials and credit card numbers. At the heart of this project lies a thematic focus on cybersecurity, enriched by the integration of advanced machine learning algorithms. The core objective of this initiative is twofold. Firstly, to develop an innovative solution that is adept at accurately identifying and effectively neutralizing phishing attacks. This proactive approach is geared towards safeguarding critical user information, such as login details and financial data. Secondly, an equally important goal is to foster awareness and educate users about the risks associated with phishing. By enhancing users' understanding of these threats, the project aims to cultivate a more security-conscious online environment. In essence, this project is not only a technological endeavor but also an educational one, aiming to reinforce digital security and user awareness in the ever-evolving landscape of cyber threats.

2. Relevance to Sustainable Development Goals (SDGs):
In a world where technology is advancing rapidly and cyber attacks are increasingly on the rise, I am aware of the challenges my country faces in this area. Specifically, I aim to create a broader awareness of cybersecurity in my country by focusing on phishing, one of the most common forms of cyber attacks. In this project, I intend to use machine learning models to detect and prevent phishing attacks. The system I will develop is vitally important in many areas including health, education, and banking, and it will contribute to enhancing the security of these sectors, thereby strengthening my country's cybersecurity infrastructure.
I believe that my project will play a significant role in advancing cybersecurity and providing protection against phishing attacks. Using advanced machine learning techniques to contribute not only to technological advancements but also to social and economic sustainability is one of the main goals of my project. In doing so, I aim for the progress in technology and security to directly contribute to the overall well-being of our society.

3. Literature Examples:
—> https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9404714
—> https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9214225
—> https://arxiv.org/pdf/2201.10752.pdf#:~:text=,and%20building%20a%20large%20dataset
—> https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8504731/pdf/pone.0258361.pdf
The provided literature examples offer valuable insights and methodologies that can serve as references and inspiration for my project on phishing detection and mitigation using machine learning.

4. Describe Your Data:
https://www.kaggle.com/datasets/shashwatwork/phishing-dataset-for-machine-learning/data
Datasets for phishing websites detection - ScienceDirect
https://arxiv.org/abs/2201.10752
Each of these datasets offers unique features and focus areas, providing a range of options depending on the specific requirements of my machine learning model and the aspect of phishing I wish to address.

5. Approach (Machine Learning or Deep Learning):

I choose Machine learning approach to solve my problem.