**Idea Proposal**

**1. Project Idea:**

* Predictive Modeling for Counterterrorism: Machine Learning Algorithms for Anticipating Targets and Perpetrators of terrorist attacks in Afghanistan.
* This project focuses on developing a machine learning model to predict potential terrorist attack targets and predict the groups behind these attacks in Afghanistan. By utilizing historical data on terrorist incidents alongside socio-economic factors, geopolitical dynamics, and other pertinent variables, the project aims to construct predictive models capable of offering actionable insights for counterterrorism efforts. Moreover, the project aims to visualize regions vulnerable to future attacks, aiding in the augmentation of proactive measures to mitigate security threats.

**2. Relevance to Sustainable Development Goals (SDGs):**

* This project directly aligns with Sustainable Development Goal (SDG) 16: Peace, Justice, and Strong Institutions.By developing a machine learning model to predict potential terrorist attack targets and identify the groups behind these attacks, the project aims to enhance peace and security in Afghanistan. Anticipating and preventing terrorist attacks can help reduce violence, instability, and conflict, ultimately contributing to a more peaceful environment.

**3. Literature Examples:**

* This research proposes using machine learning to predict targets of terrorist attacks. It focuses on using historical attack data along with other factors to build models for prediction [1].
* This paper explores using machine learning to predict not just targets, but also the terrorist groups responsible for attacks [2]. While my project focuses on Afghanistan, this paper offers a broader perspective on utilizing machine learning for counterterrorism efforts.

**4. Describe Your Data:**

* In this project I will use the global terrorism database. The Global Terrorism Database (GTD) is an open-source database including information on terrorist events around the world from 1970 through 2020.

**5. Approach (Machine Learning or Deep Learning):**

* Support Vector Machines (SVM), Decision Trees, k-Nearest Neighbors (KNN), and Deep Neural Networks (DNN) are the algorithms are suitable for this project according the nature of the data.

**References**

[1] Xiaohui Pan and Tao Zhang, “Machine learning-based target prediction for terrorist attacks” 2023 J. Phys.: Conf. Ser. 2577 012007, **doi:** 10.1088/1742-6596/2577/1/012007

[2] I. A. Fadel and C. Öz, “Prediction of Unknown Terrorist Group Names Responsible for Attacks in Turkey”, SAUCIS, vol. 5, no. 3, pp. 257–268, 2022, doi: 10.35377/saucis...879855.