Northwestern | BUFFETT INSTITUTE FOR GLOBAL AFFAIRS

Buffett Undergraduate Research Fellowship Opportunity

Modeling & Forecasting Terror Group Behavior

Faculty Mentor: V.S. Subhrahmanian, Professor, McCormick School of Engineering

Project Synopsis: Since October 2024, the Northwestern Security & AI Lab has been distributing forecasts of terror attacks by six terrorist groups. These forecasts are generated through advanced machine learning algorithms which learn models of the behavior of a given group. These models are learned from open-source information (e.g., news, think tank reports). Unfortunately, there are more than 6 terror groups in the world - and we would like to expand our forecasts to cover more deadly groups. Should you be selected, you will join a dynamic team and focus on 1-2 specific terror groups. You will learn how to gather data about a given terror group. In the process, you will likely learn a lot about the group as well as about the area in which the group operates. If you are interested in the study of terrorism, as well as geopolitical and/or security issues in Africa and Asia, this project may be of interest to you.

Project Term: Summer and Academic Year

Project Location: Remote

JD: You will be allocated 1 or 2 terror groups to study. Your task will be to develop and maintain a database of monthly information about: (i) different types of attacks carried out by the group and (ii) different aspects of the environment in which the group operates. Types of attacks may include abductions, attacks on government facilities, attacks on security installations, and more. Variables related to the environment include ones related to the actions of the government against the group (e.g. arrests, raids), the grievances of the group, the communications issued by the group and/or the government, actions by international parties that target the group (e.g. international tribunals), the internal dynamics of the group (e.g. internal dissension), and much more. The initial task will be to build a comprehensive database of the group from the inception of the group, to the current day. Once this initial database is built, you will be responsible for keeping it up to date. As our machine learning systems work on these models, extract information from them, and generate forecasts, you will also be asked to look at the forecast reports and fine-tune them.

Knowledge of computer science is NOT required. In the past, we have had students majoring in history, journalism, political science, and other fields work with us. We are looking for students with a strong work ethic - disciplined, punctual, and delivering on time.

Time Commitment: Approx. 10-12 hours per week on average - when exactly you work is up to you. We have an online meeting once a week which runs anywhere from 15-45 minutes that you are expected to attend.

Number of available positions: Two