## Project Title

**Disaster Impact Assessment using Visual-Language Models**

**Project Description:**

This project focuses on the analysis of disaster-related social media imagery using Vision-Language Models (VLMs). The main objective is to automatically retrieve images linked in disaster-related tweets, process them using a disaster-trained VLM, and generate detailed scene-level captions describing visible impacts such as infrastructure damage, environmental conditions, etc. The resulting captions will form a structured dataset that enables systematic analysis of visual disaster impacts across multiple events. Interns will be responsible for:
(1) developing scripts to download and organize images from tweet metadata,
(2) implementing preprocessing and data management pipelines,
(3) running batch inference with the VLM to generate captions,
(4) conducting quality assessment and basic statistical analysis of the outputs,
(5) supporting selected case studies to analyze patterns and assess disaster impacts.

The project provides hands-on experience in multimodal AI, large-scale data engineering, and AI-driven disaster impact assessment.

**Project Type:** Research

**Internship Batch**:

- **Batch 1:** May 10 to July 9, suitable for Education City students, i.e., CMUQ, TAMUQ and HBKU students

**Duties/Activities: Dataset creation pipeline, Data cleaning, Benchmarking new dataset.**

**Required Skills: Python programming knowledge, machine learning, scripting, familiar with data pipelines,**

**Preferred Intern Academic Level: 3rd/4th Undergrad, Master students**

**Learning Opportunities: Large-scale real-world data creation, Data orchestration pipeline, Understanding vision-language foundation models and their capabilities.**

**Expected Team Size: Team of 2 or 3**

**Mentors**

Name: Dr. Ali Diba email: adiba@hbku.edu.qa

Name: Dr. Muhammad Imran email: mimran@hbku.edu.qa

Name: Dr. Ferda Ofli email: fofli@hbku.edu.qa

Name: Aisha Morshid Al-Mohannadi email: aalmohannadi@hbku.edu.qa