

Automated Building Damage Assessment using Satellite Imagery



When a disaster occurs, it is crucial to assess the damage as quickly and accurately as possible. The xView2 Challenge [1] focuses on automating the process of assessing building damage using satellite imagery, which can provide an overview of the affected area without the need for local communication and transportation infrastructure.

The project will involve a review of state-of-the-art computer vision algorithms for object detection and segmentation, as well as exploring new ideas to improve the robustness and performance of the models on the xView2 Challenge dataset. The dataset contains high-resolution satellite imagery annotated with building locations and damage scores before and after natural disasters, making it one of the largest and highest-quality publicly available datasets for building damage assessment.

The goal is to develop and compare models for building damage assessment using the xView2 Challenge dataset. The models will be evaluated on their ability to accurately detect and classify damaged buildings and provide an overall assessment of the damage in the affected area. The results of the project will contribute to the development of automated building damage assessment tools that can assist responders in the aftermath of natural disasters.

The project will be conducted using publicly available datasets, and participants will have access to computing resources and software tools for implementing and evaluating their algorithms. The project is suitable for students with a background in computer vision, machine learning, or related fields, who are interested in applying state-of-the-art algorithms to real-world problems.

[1] The xView2 Challenge dataset. <https://xview2.org/dataset>