

**Project title:** Optimizing Emergency Vehicles Identification and Heart Attack Prediction with Activation, Loss, and Optimization Function Analysis in Machine Learning Models

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The responsibilities of developing a " **Image Classification (Emergency Vs Non-Emergency Vehicle)**" and "**Heart Attack Prediction**" project typically include:

1. Loading all dataset
2. Data Preprocessing
3. Creating Training and Validation set
4. Defining Model Architecture
5. Compiling model
6. Training model
7. Evaluating model performance

### **Project Description:**

In this project, I aim to study the impact of activation, loss, and optimization functions on the performance of machine learning models applied to two important real-world datasets: Emergency Vehicles Identification and Heart Attack Analysis & Prediction. The goal is to determine the best combination of these functions that can improve the accuracy and robustness of the models in these two crucial applications.

The results of this project will provide insights into the relationship between activation, loss, and optimization functions and their impact on the performance of machine learning models in emergency vehicles identification and heart attack analysis & prediction. The findings will be valuable for researchers and practitioners in these fields to make informed decisions when selecting activation, loss, and optimization functions for their models.

### **Data Description:**

1. Real-world Kaggle datasets: [Emergency Vehicles Identification](#) and [Heart Attack Analysis & Prediction](#) data will be used in the project.

train.zip: contains 2 csvs and 1 folder containing image data

train.csv – ['image\_names', 'emergency\_or\_not'] contains the image name and correct class for 1646 (70%) train images

images – contains 2352 images for both train and test sets

test.csv: ['image\_names'] contains just the image names for the 706 (30%) test images

sample\_submission.csv: ['image\_names', 'emergency\_or\_not'] contains the exact format for a valid submission (1 - For Emergency Vehicle, 0 - For Non Emergency Vehicle)