Proposal for DSPRO2 (FS24) –

Emotion recognition through facial expressions

# Group Members

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# Short Project Description

This project aims to develop a machine learning model capable of detecting and interpreting human emotions in real-time from a live camera feed. The model will analyze facial expressions to identify emotions such as happiness, sadness, anger, surprise, fear, and disgust. The end goal of this project is to create a robust and efficient AI model that can accurately detect human emotions in real-time, which has numerous potential applications in areas such as interactive entertainment, mental health monitoring, and human-computer interaction.

# Data Description

For initial training we are going to use the FER2013 Dataset which consists of 35’887 48x48-pixel grayscale images of faces expressing various emotions. The emotions are categorized into angry, disgust, fear, happy, neutral, sad and surprise.

The dataset is split into a training set containing 28’709 images and a testing set containing 7’178 images.

# Cloud Service Integration

*Describe which tool you plan to use and how. For example, you may decide to do the greatest part of your training on your laptop and just run some final larger runs on the cloud, or maybe do only hyperparameter tuning in the cloud. It is ok if your final approach will be different than what you describe here. The goal of this document is to give you a more concrete starting point. Keep in mind that it is good practice to do some cost management and planning in the cloud, so you can describe how you plan to do this too (very shortly).*

# Kanban Tool

We are using the Kanban Tool provided by GitHub.

# Experiment Tracking Tool Approach

*Describe shortly how you will use the experiment tracking tool and which one you plan to use.*