Cat Emotion Recognition System (1stDec2025 to 9thDec2025)		
S.No	**Week**	**Task (Milsetone 1)**
1	Week 1&2	**Dataset Gathering & Organization**
		Collect cat facial image datasets labeled with emotions (happy, sad, angry, fear). Collect cat audio datasets (meows, growls, hisses, purrs) representing emotions. Validate dataset quality (resolution, clarity, labeling correctness)
2		**Image Preprocessing**
		Convert images to a unified size (e.g., 224×224 or 128×128). Perform Data augmentationGrayscale conversion (optional; you may keep RGB) Write preprocessing scripts using: OpenCV TensorFlow/Keras ImageDataGenerator Remove blurry, duplicated, or irrelevant images.
3		**Audio Preprocessing**
		Convert audio files to mono, 16kHz sample rate. Remove background noise (noise reduction). Trim silent parts. Extract deep-learning-compatible features: Convert spectrograms to images (optional, if training via CNN).
4		**Data Transformation & Feature Engineering**
		Final transformation pipeline creation: 1.image → array → normalized → augmented 2.audio → spectrogram → 2D feature map Combine image + audio feature sets for multimodal training. Label encoding for emotions:
5		**Exploratory Data Analysis (EDA)**
		Analyze image dataset Analyze audio dataset: waveform plots spectrogram heatmaps emotion frequency patterns Identify dataset imbalance issues. Document observations & potential issues (e.g., limited fear data).