**Usage Instructions:**

1. **Environment Setup:**
   * Install the required software packages and dependencies using a provided requirements.txt file.
2. **Data Preparation:**
   * Load the EEG dataset and run the preprocessing functions to filter and augment the data.
   * Split the data into training, validation, and test sets.
3. **Model Training:**
   * Run the training pipeline, after preprocessing the data, and train the ATCNet model.
   * Monitor the training progress as it continuously outputs to a log file.
4. **Model Evaluation:**
   * While Training, the evaluation is undertaken by inner functions that plot and save confusion matrix, model accuracy, precision, Recall and loss. These are the Training Metrics.
   * After Training, the Testing begins to evaluate the model on unseen data.
   * Visualizing the results of both Train and Test is done mostly by the same inner functions. All graphs and metrics are saved in “Zurs\_Dataset\_results/”
5. **Real-Time Testing:**
   * (Optional) If connected to a real-time EEG acquisition system, deploy the trained model to predict and classify user inputs in real time.