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language:
- en

FATIGUE-GR: Fatigue-Aware Gesture Recognition Dataset
Overview
FATIGUE-GR is a multimodal dataset designed for fatigue-aware gesture recognition in extended human-computer interaction. The data was collected from 41 participants using Delsys Avanti EMG and IMU sensors while interacting in a virtual reality (VR) environment.

Participants played five VR games, each controlled by a distinct hand gesture: air tap, swipe, pinch, fist, and grab. Each game lasted up to 20 minutes, and participants reported their subjective fatigue every 20 seconds using the Borg CR scale (0–10).

The data collection was conducted in two sessions, with:

A 10-minute break between consecutive gestures, and
A minimum 2-hour gap between the two sessions to reduce carryover fatigue.
This setup allows researchers to analyze fatigue progression and gesture recognition over time in realistic VR interactions.

Data Contents
The dataset includes:

EMG, ACC, GYRO signals from Delsys Avanti sensors (8 sensors per participant)
Gesture label for each recording segment
Subjective fatigue scores reported every 20 seconds during each gesture session
Structured folders: Each participant has a directory containing gesture-wise CSV files
Formats: All data is stored in .csv format
Folder Structure
FATIGUE_GR_Dataset_CHECK_FINAL/
├── P1/
│ ├── Gesture_1.csv
│ ├── Gesture_2.csv
│ └── ...
├── P2/
│ └── ...
├── ...
└── Subjective_Data_new.csv
Gesture_*.csv: Contains time-series data for EMG, accelerometer, and gyroscope
Subjective_Data_new.csv: Contains participant IDs, gestures, and fatigue scores sampled every 20 seconds
License

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