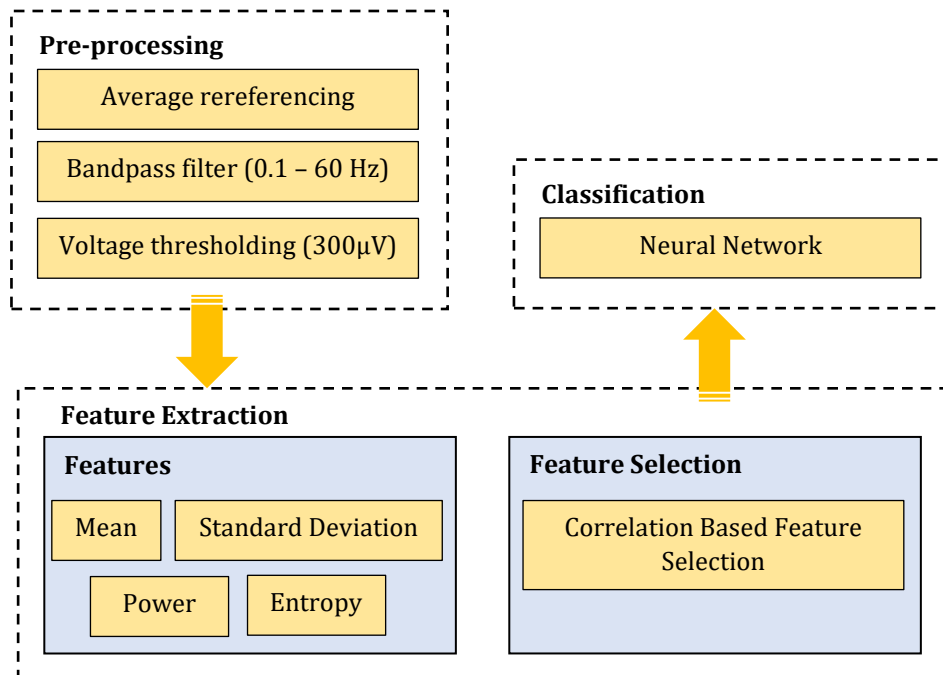# ASDGenus Documentation

Table of Contents

1 Target Audience

- Medical practitioners (doctors, EEG technicians, etc.)
- Researchers involved in Autism Spectrum Disorder (ASD) research

2 Supported EEG file type

In version 1.0, .vhdr extension is supported. Other EEG file extensions will be included in the coming updates.

3 System Architecture

Pre-processing
- Average rereferencing
- Bandpass filter (0.1 – 60 Hz)
- Voltage thresholding (300µV)

Classification
- Neural Network

Feature Extraction

Features
- Mean
- Standard Deviation
- Power
- Entropy

Feature Selection
- Correlation Based Feature Selection

4 System Output

Primary system output

Secondary system output

4.1 Primary System Output

No ASD	Potential Risk	Mild ASD	Severe ASD

0   2   6   12   26
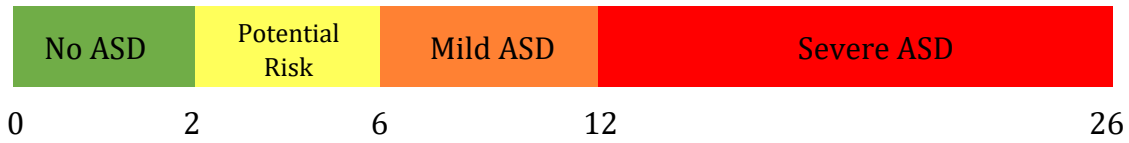
System outputs severity of ASD. The results are of four categories: No ASD (severity: 0-2), Potential risk for ASD (severity: 3 - 6), Mild ASD (severity: 7 - 12) and Severe ASD (severity: 13 - 26). The severity score is similar to that of ADOS-2 score.

4.2 Secondary System Outputs

The report generated by the system, in addition to the primary output, includes:

- Number of channels
- Electrode locations
- Duration
- Record Date