

# Intelligent Mental Health Detection

## Based on Smart Sensing and Processing

### Background

According to the World Health Organization research, one in eight people in the world has a mental disorder, and the number of people diagnosed with it continues to increase significantly.

Psychiatric disorders involve severe impairments in thinking, emotion regulation, or behavior, however, the current mainstream methods of diagnosing and monitoring psychological disorders are very limited and rely on questionnaires or communication with psychotherapists.

Unfortunately, these methods are costly and unaffordable for most households. In addition, this approach is very problematic for young children and groups of children, as they are unable to communicate effectively or understand the meaning of the problem and have no obvious symptoms of illness. When the disease becomes apparent, the optimal time for treatment may be delayed and missed.

For families lack of relevant cognitive and financial means, it is even more difficult to find the problem. Because the monitoring process is not only time-consuming and limited by time and space, but also cannot be detected at any time, it is not conducive to the early detection of psychological disorders.

Applying data-based method for assistance in questionnaire research may lighten the way.

### Perception



Design of sensors based on psychological disorder monitoring

Sensor signal acquisition and processing

Data-driven modeling based on fused sensor data

Psychological disorder diagnosis/ monitoring

### Analysis

This RBM project aims using fused multi-modality sensors data, which including EEG, ECG, respiration, human activity, etc., for mental disorders detection based on feature engineering.



Heart Rate



Respiration



Electroencephalogram



Gait

### Supervisor



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### Our Team



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### Resource

Autism ASD Medical Rehabilitation Center  
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### Objective

Provide a specific reference for mental disorders monitoring ;  
Overcome the limitations of traditional subjective methods;  
Improve early diagnosis and prevention of psychological disorders;  
Provide more data and information for psychological research.



### Join us

Welcome to our team! If you would like to join us, please send an email to

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