Novel Diagnostic Tool to Quantify Signatures of Novel Diagnostic Tool to Quantify Signatures of Movement in Subjects with Neurological Disorders, Autism and Autism Spectrum Disorders

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Technology description

Developmental disorders such as Autism, Autism Spectrum Disorders (ASD) and neurological disorders such as Parkinson's disease are conditions that involve both cognitive and motor impairments. Currently there is a pressing need for tools that will help to measure objectively the severity of the person's motor deficits, relative to their normal counterparts. Scientists at Rutgers in collaboration with researchers at Indiana University have recently developed a sophisticated measurement tool and statistical metric to classify and diagnose individuals with ASD and movement disorders that is age independent. This tool systematically and rigorously quantifies signatures of movement variability, which is useful in aiding in the diagnosis of or the extent of these types of neurological disorders. Further, the advanced motion tracking analysis enables differentiating patients with neurodegenerative disorder from normal individuals. Upon analysis, differences in motion patterns can reveal signs of ASD. In addition, this technology can also be adapted to study facial patterns, monitor ASD treatment effectiveness and to understand mitigating properties of the treatment. This technology will not only be instrumental as a quantitative performance index, but also aid in studying learning gains and diagnosing neurological and developmental disorders.

Application area

Movement Study, Neurological Disorder Diagnosis, Autism, Autism Spectrum Disorders (ASD), Motor Variability, Parkinson's disease, Goal Oriented Movements, Supplemental Movements, Neurological Disorder Treatment. Differences in motion patterns can provide clues in detecting signs of spectral disorders such as ASD.

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