How Artificial Intelligence can predict severity of psychiatric disorders

Mental health is an important component of overall wellness. <u>Artificial intelligence</u> (AI) deep learning is being applied across many disciplines as a potential novel diagnostic tool, including for mental health and wellness. A new diagnostic <u>study</u> published in *JAMA <u>Psychiatry</u>* shows how AI deep learning may predict mental disorder diagnoses from genetic and health registry data.

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"Diagnoses and treatment of mental disorders are hampered by the current lack of objective markers needed to provide a more precise diagnosis and treatment strategy," wrote the study authors at Copenhagen University Hospital in Denmark along with their research colleagues.

The scientists developed an AI deep learning model to predict mental disorder diagnosis and severity for multiple diagnoses. The researchers looked at a wide range of mental disorders including major depressive disorder (MDD), <u>autism</u> spectrum disorder (ASD), schizophrenia spectrum disorders (SCZ), and <u>attention</u>-deficit/hyperactivity disorder [ADHD]).

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"In this diagnostic study including 63,535 individuals, the specific diagnostic category within the mental disorder group could be predicted in a multidiagnostic model including a randomly sampled population control group," the researchers wrote. "The most predictable group was the most severe group."

According to the researchers, this diagnostic study suggests that the combination of genetics and health registry data can be used to predict mental disorder diagnosis and disorder progression in a "clinically relevant, cross-diagnostic setting prior to clinical assessment."

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