EEG-based research for objectively quantifying cannabis effects in an affordable and agile manner

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Abstract: Zentrela has developed a novel method for measuring cannabis effects by objectively analyzing consumer's electroencephalographics (EEG) using neuroscience and AI.

The cannabis industry lacks a reliable, cost-effective, way of characterizing effects products create for consumers. Without this information, producers risk formulating unsatisfactory products. It is therefore important that a reliable method exists for determining the effectiveness of strains and formulations.

Portable, non-invasive technology is used to record consumer EEG data and label it with characterized cannabis effects derived from controlled and supervised scientific research. Posteriorly, neuroscience and AI is used in large EEG datasets to train algorithms that learn how to objectively predict and quantify the intensity of such effects. Zentrela's first trained AI model detects and quantifies the strength of THC-induced psychoactive effects (PE) on a 0-100% scale. This measurement, when repeated at intervals over 300 minutes post-intake, allows us to characterize key parameters such as onset time before significant PE are noted, potency and timing of the peak of the PE, the expected range of potencies that most participants will experience, and the duration of significant effects. The following peer-reviewed articles describe the unprecedented accuracy levels of this first algorithm: https://doi.org/10.1007/s40120-021-00293-w and https://doi.org/10.1007/s12325-021-01718-6.

The combination of EEG technology, neuroscience, and AI is a paradigm shift for the cannabis industry. It represents an approach to objectively characterize the actual effects by cannabis, an improvement over previous scientific techniques that simply measured the presence of cannabinoids in the system.