CASE STUDY

UNIVERSITÄT BERN

machineMD

MACHINEMD – NEOS: A NEW ERA IN OCULOMETRICS

Problem – Challenge

Neuro-ophthalmic examinations are an essential part of brain function assessment. Abnormalities in eye and pupil movements can serve as important clinical indicators for diagnosing and monitoring systemic diseases such as Multiple Sclerosis and Parkinson's.

Currently, these exams are performed manually with mostly qualitative results. Misdiagnosis based on manual exams affects 50 % of patients, leading to significant harm for 26 % and unnecessary procedures for 80 %.

These time-intensive manual examinations also result in long waiting times, exacerbated by a shortage of highly trained neuro-ophthalmologists, leaving a significant gap in the availability of accurate and timely diagnostic expertise.

Solution

neos®, is a non-invasive medical device that automates the measurement of eye movements and pupillary function.

Using an industry-leading VR headset with high-speed infrared eye tracking, neos® performs a fast, objective examination, with intuitive, gamified stimuli that are accessible for pediatrics and adults.

Secure cloud processing transforms these measurements into quantitative insights, indicated to support the detection of disease-related impairments.

neos® is the first device to combine eight neuro-ophthalmic exams in a single, portable system, making advanced neurodiagnostics faster, more accessible, and cost-effective.