



USE CASES

quantusRT

Medical Imaging with Artificial Intelligence

quantusRT — Support for Screening and Prioritization of Diabetic Retinopathy

Product Description

quantusRT is a non-invasive, artificial intelligence-based test that analyzes fundus photographs to estimate the risk of diabetic retinopathy based on a quantitative assessment of the fundus image. Developed by Transmural Biotech, it serves as a screening and prioritization tool that complements the ophthalmologist's assessment, providing results in just a few minutes using a fundus photograph already available in most diabetic patient screening programs.

Epidemiological Context

Diabetic retinopathy is the most common microvascular complication of diabetes and one of the leading causes of preventable blindness in working-age adults. In Spain, it affects approximately 40% of people with diabetes, with proliferative forms occurring in 4–6% of cases. It is an asymptomatic disease in its early stages, so periodic screening via fundus photography is key to initiating treatment before irreversible vision loss occurs. However, the high number of diabetic patients and the limited availability of specialists result in a large backlog of fundus photographs awaiting review and delays in evaluating the most severe cases.

Use Cases

CU-RT-01: Prioritization of Cases for Ophthalmological Review

Stakeholders	Ophthalmologist, ophthalmology unit, or reading center of a diabetic retinopathy screening program
Main Workflow	When faced with a high volume of retinographs awaiting review, quantusRT automatically analyzes each image and provides a prediction of the risk of diabetic retinopathy, allowing the ophthalmologist to prioritize the list of cases and review those at highest risk first.
Key Benefit	Reduces the time to review the most severe cases. Optimizes the specialist's time by focusing the review on the highest-risk images.
Success Metrics	Average time to review high-risk cases, reduction in follow-up loss, and agreement between the prediction and the final diagnosis.

CU-RT-02: Population-Based Screening of Diabetic Patients in Primary Care

Stakeholders	Primary care physician, nurse, diabetic patient undergoing annual checkup
Main Workflow	During the diabetic patient's annual checkup, a fundus photograph is taken at the health center. quantusRT analyzes the image and estimates the risk of diabetic retinopathy, helping to determine which patients require priority referral to an ophthalmologist.
Key Benefit	Expands systematic screening of the diabetic population without the need for a prior in-person ophthalmology consultation. Facilitates adherence to recommended periodic checkups.
Success Metrics	Screening coverage among the diabetic population, rate of appropriate referrals, reduction in the number of patients who have not undergone a fundus examination.