CAMBRIDGE | Enterprise

Early detection of dementia

Available Technologies

A clinically validated machine learning algorithm

Developed to ISO standards, to enable tailored care pathways for dementia patients and optimised clinical trial design.

Diagnosis at early stages of neurocognitive decline has major implications for timely clinical management. We currently intervene too late and often target the wrong patients. With the recent approval of drugs for mild cognitive impairment and early-stage Alzheimer's disease, it is imperative to correctly identify patients at risk of rapid cognitive decline to assign the patient to the right treatment pathway.

Technology overview

- An AI-guided solution for early dementia detection and for the robust prediction of individualised disease progression using patient information and MRI scans.
- A working prototype validated across multiple international cohorts (e.g. NIMROD, BACS) and successfully tested on retrospective real-world patient data from UK memory clinics.

Benefits

- Supports clinicians in early diagnosis and patient management decisions
- Allows clinicians to plan tailored interventions to individual needs

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- Informs on patient selection for clinical trials
- Avoids the need for invasive tests, relying instead on MRI scans and cognitive tests
- Clinically validated
- Developed to ISO standards

Applications

The technology can be:

- Used directly by clinicians, particularly those in memory clinics;
- Incorporated into MRI software;
- Used in clinical trials, to stratify patients and also to detect changes as a result of therapies

Opportunity

Cambridge Enterprise are looking for partners to help develop this technology towards clinical deployment through licensing, co-development or collaboration.

Inventors

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References & Patents

- Modelling prognostic trajectories of cognitive decline due to Alzheimer's disease
- A robust and interpretable machine learning approach using multimodal biological data to predict future pathological tau accumulation