Prism Interacta

Post-digital neuropsychological assessment

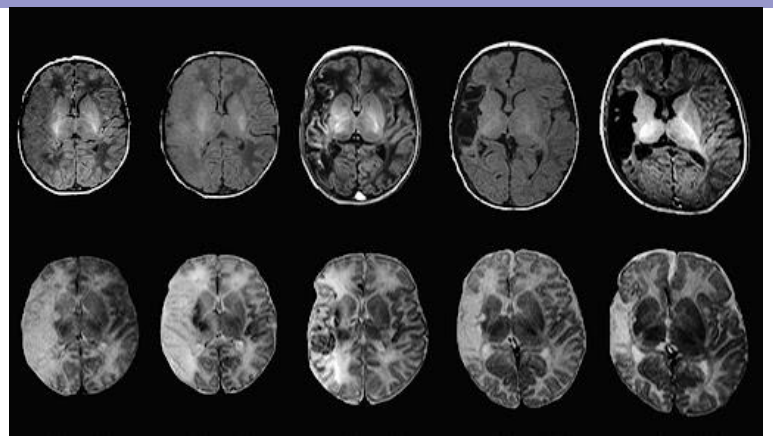
Dementia

10M new cases each year Worldwide

Patterson, C. (2018). *World Alzheimer Report 2018*..

~7000 new people diagnosed in DK each year

Stroke and Traumatic Brain Injury



33.7M new cases each year Worldwide

Rajsic, et al. (2019). Economic burden of stroke: a systematic review on post-stroke care. *Eur Joul of Health Econ, 20*(1), 107-134.

~30k new cases in DK each year

Neurodevelopmental disorders

Children & neurodevelopmental behavioural intellectual disorders, Training Module, WHO 2021

~3-7% Of children in Europe/USA

/ 9600 tests/year for dementia alone

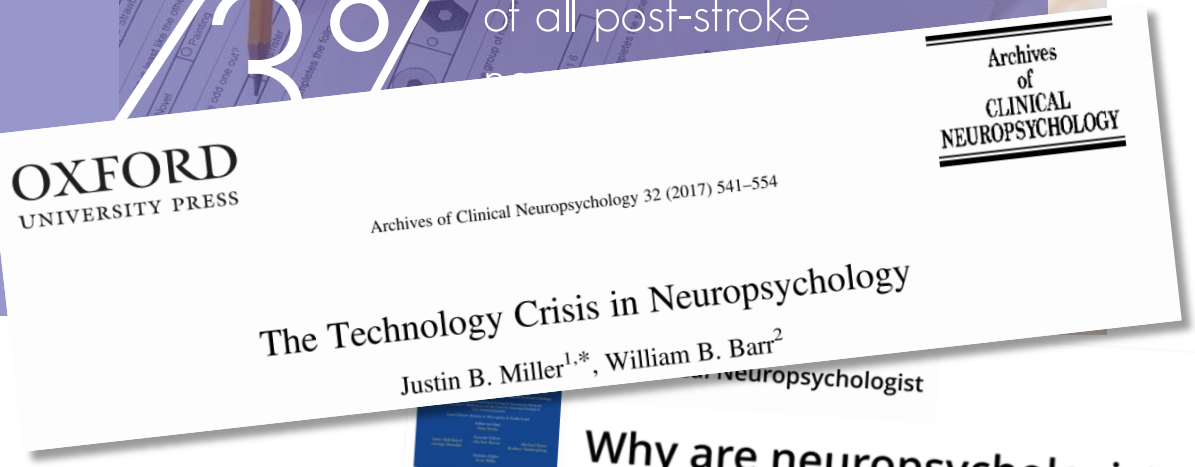
https://videnscenterfordemens.dk/

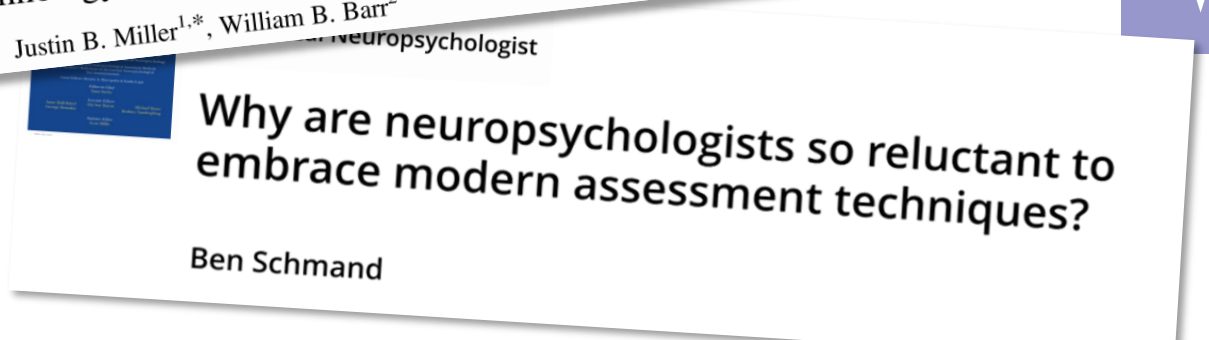
Cognitive assessment

Cognitive assessment:

Paper-based

73% of all post-stroke





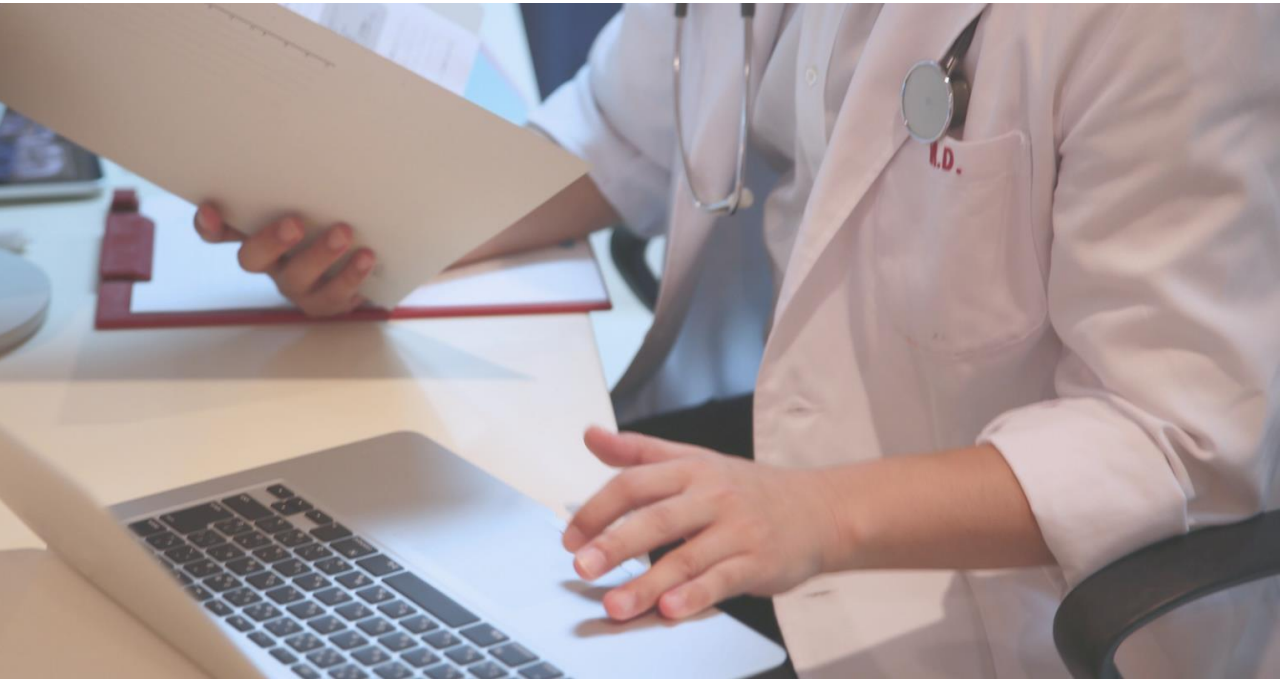
Why paper still rules:

- Flexibility
- Suits frail and older adults uncomfortable with tablets/computers
- Large amount of normative data from years of use

VS.

Digital

The weight of paper



- Time consuming manual scoring
- Manual reporting in EHR
- No decision support/interpretation aid
- No data integration and traceability
- Poor sensitivity/specificity of the tests

“Every first stroke assessment requires about 1h spent in consultation with the patient… Scoring and reporting takes 45min to 1h…”

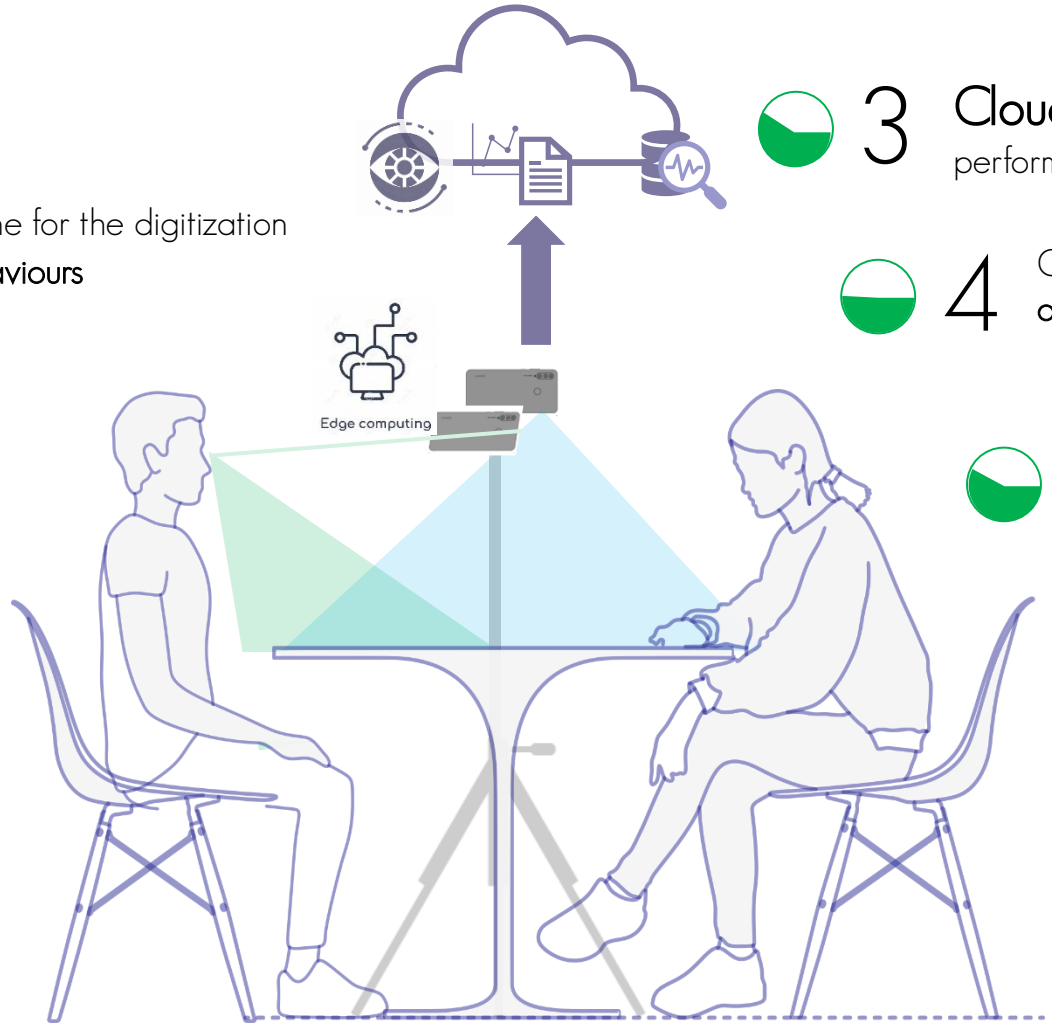
Maria Nordfang
Former clinical neuropsychologist at Rigshospitalet Glostrup
Science Program Director, Lundbeckfonden

Our solution: digitalize differently using Computer-Vision and AI

Our MVP:

2 A **deep-learning** pipeline for the digitization of **paper-templates** and **behaviours**

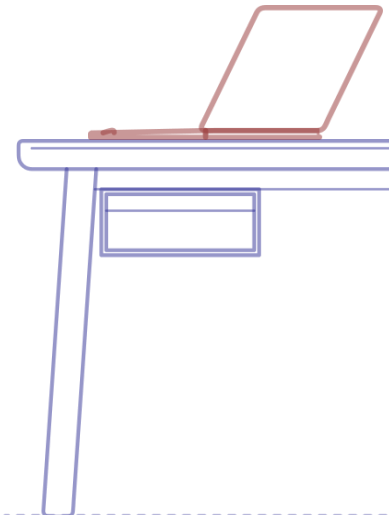
1 An **edge-computing front-end** for ***anonymous*** smartphones or eye-tracking glasses video acquisition



3 **Cloud analytics** (test scoring, relative test performance) and Report Generation

4 Collection of anonymous behavioural and **objective data** (e.g. gaze, finger movement)

5 **Web-portal** for report consultation and decision-aid



Our revenue model:

- Subscription based / month
- Premium features:
  - Objective measures collection

Development status indicator

User-flow

Before

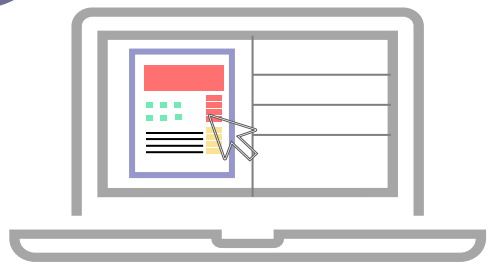
1a

Available set of compatible tests

Test 1 | Test 2 | Test 3 | Test 4 | Test 5 | ...

1b

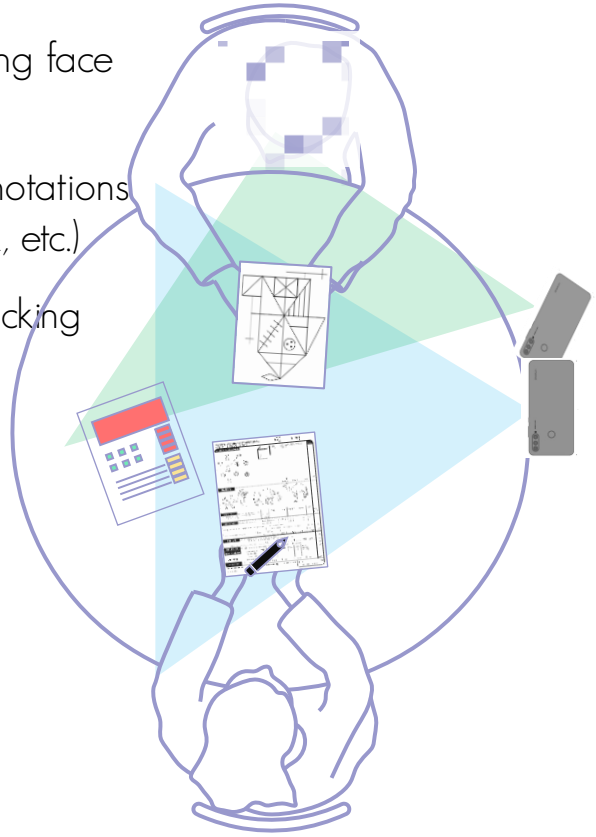
User develop own test



During the assessment

2

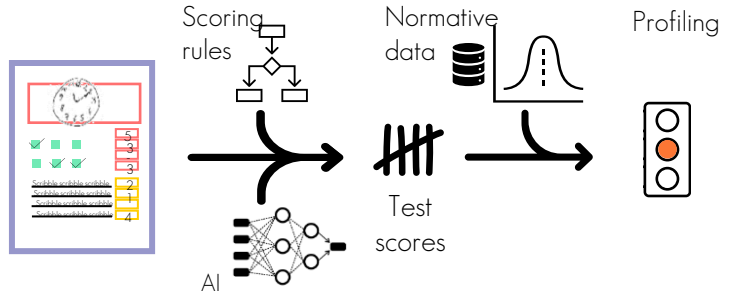
- Edge-computing face blurring
- Test sheet annotations capture (OCR, etc.)
- Behaviour tracking



After

3

Automated test scoring and decision-support



4

- Data export
- Report generation,
- EHR/EPR integration

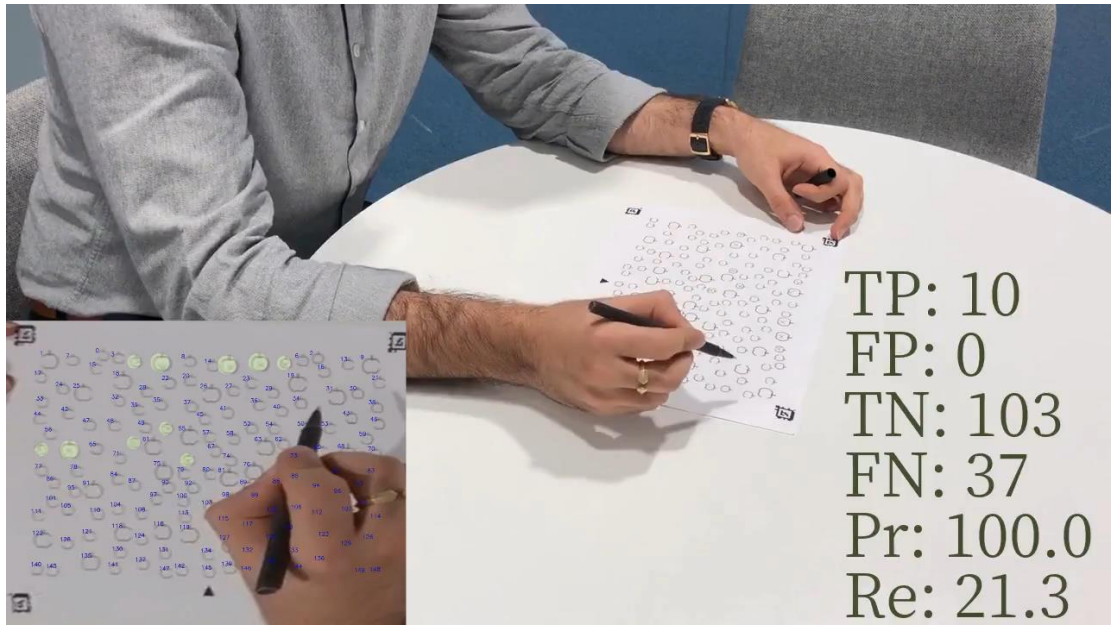
Technology and Beta-prototype status

Two of the most administered stroke-related tests already implemented:

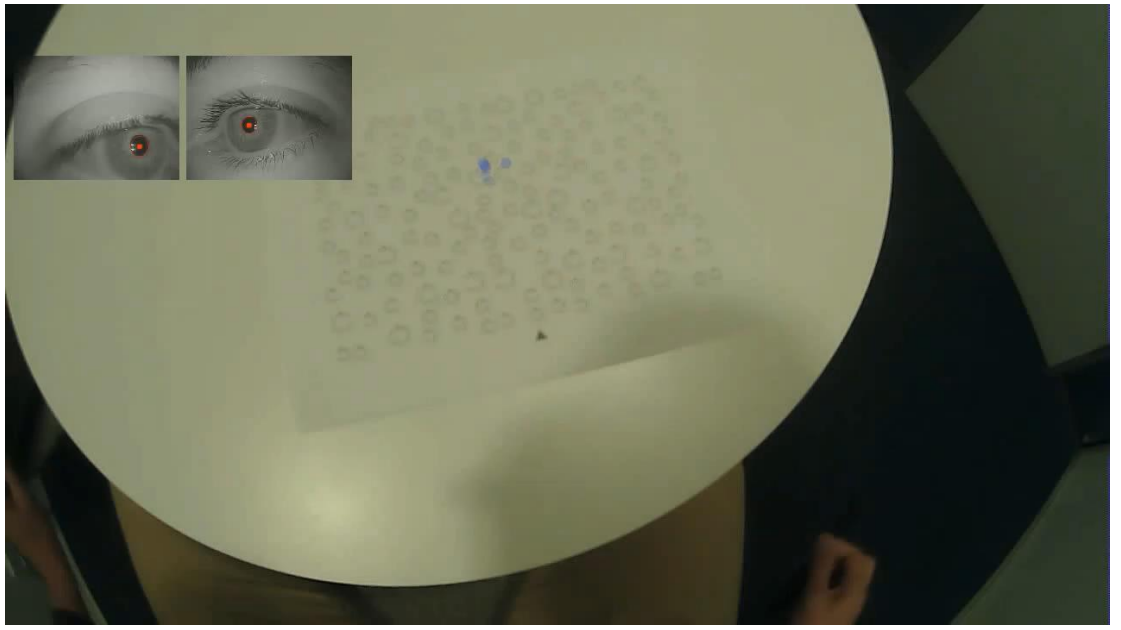
Test 1 Cancellation task

Test 2 Trail-making task

Example 1: Capture using conventional smartphone



Example 2: Capture using PupilLabs Invisible eye-tracking glasses



Value proposition

Phase 1 - Operational efficiency in clinical routine, Academic excellence in research

Phase 2 - Better diagnostics and monitoring

Clinical routine

Hospital administrators

- Traceability/QA
- Cost-efficiency

Clinicians

- Flexibility, time efficiency and inclusiveness of paper-based testing
- Reduced administrative load
- Empathy and reduced mental load

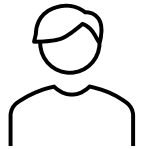
Research

Researchers

- Design own paper/physical tests
- Behavioural research easily executed *during routine practice*

Strong presence in clinical routine = Better position to implement new tests/findings

Clinical routine



Patients

- Better cognitive screening
- Better differential diagnosis
- Better monitoring/follow-up

Big pharma - clinical investigations

Big Pharma

- New biomarkers for drug-trial investigation
- Quality assurance – monitoring of clinical trials

Commercialization strategy

Phase 1 - Operational efficiency in clinical routine, Academic excellence in research

Phase 2 - Better diagnostics and monitoring

Jan 2023
Incorporation/CVR

POC Grant

Power of predictive factors extracted from data

2022	2023	2024	2025	2026

Targeted institutions:

- 2023: Large Research Hospitals DK
- 2024: Large Research Hospitals EU
- 2025: Large Research Hospitals EU + US; Private hospitals EU + US
- 2026: Large and medium-size hospitals Worldwide; Big Pharma QA (brain-drug trials)

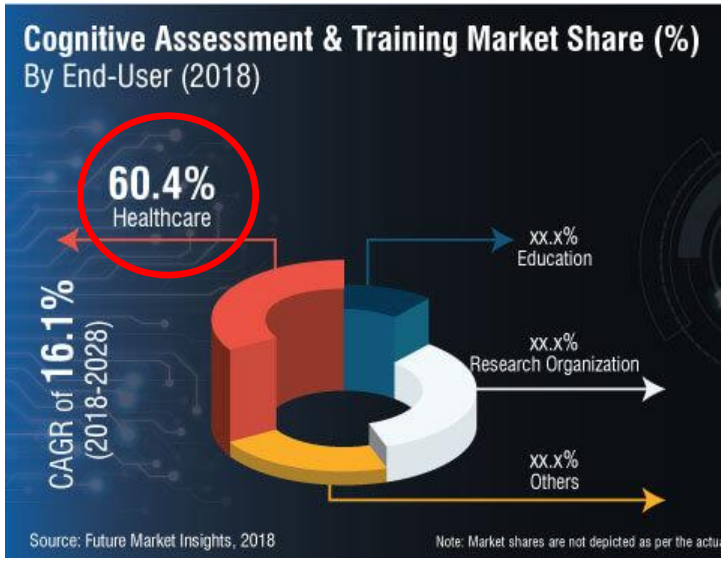
Targeted buyers:

Hospital administrators, Researchers, Clinicians → Clinicians, Big Pharma, Hospital administrators, Researchers

Business Potential and competition

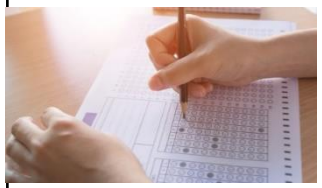
The Cognitive assessment and training market

- USD 11.4 billion market by 2025
- CAGR: 29.3%



Cognitive Assessment and Training Market by Component, Organization Size, Application (Clinical Trials, Learning, and Research), Vertical (Healthcare and Life Sciences, Education, and Corporate), and Region - Global Forecast to 2025 - Marketsandmarkets

Competitive landscape

	Clinical routine	Research	Clinical trial monitoring for Big pharma
Pen-and-paper 	• Many academic groups (e.g Oxford University Innovation) • Pearson Assessment • PRA • Etc.	Prism Interacta	Prism Interacta
Tablet / PC	• Cogstate • Cambridge Cognition • Braincheck • Etc.	• Metrisquare • CNS Vital Signs	• NA

Next steps

We have obtained the commitment to execute a *clinical and operational efficiency pilot in stroke patients at Righospitalet*

Technical developments

Business developments

Beta ready for clin. eval.
- Oxford Cognitive Screening test
- Android App
- Test scoring
- Report generation

IP - and **legal**
assessment of computer-vision in the cognitive testing landscape

Performance specs.
- Accuracy
- Robustness

Business Plan

MVP ready
- DB scaled up
- Account management
- Cyber-security/data privacy
- Web-app targeting general public

List of prospective clients in EU

Next-gen features on gesture recognition and gaze-tracking

Service subscription
negotiation with RH

Clinical/operational **pilot results** at Righospitalet

InnoBooster
application finalized

Incorporation/CVR

2022

Team

François Patou, PhD

Project Lead

Post-doc at DTU Management

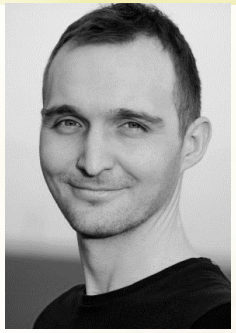
Concept development

Senior Translational Research Manager at Oticon Medical

Paula Lopez Diez

AI / Computer vision/ Mathematical modeling

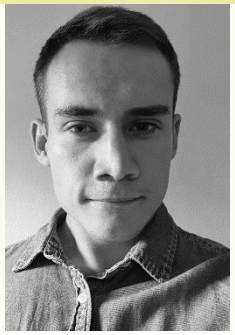
PhD Student - DTU Compute



Jan Margeta, PhD

Full-stack developer / Computer vision

Founder at KardioMe



Samuel Seman,

Web-developer

Software Development Student, KEA

?

Business Developer

Advisory Board:

Maria Nordfang

Science Program Director, Lundbeckfonden

Helle Klingenberg Iversen

Clinical Research Associate Professor, Dept. Neurology, Rigshospitalet

External support for

- IP
- Legal
- RA

Thank you