Darmiyan

BrainSee

- ***BrainSee*** is a cutting-edge, patented, AI-powered MRI analysis technology that works as a *Virtual Microscope*, revealing key details of the human brain that are invisible to the human eye. Such features are reflective of the brain health status and indicative of neurodegenerative disease formation at very early stages.

- ***BrainSee*** **is third-party validated** by highly reputable academic investigators from Stanford University, Baycrest Institute, Huntington Medical Research Institutes (HMRI), University Health Network (UHN), Knight Alzheimer's Disease Research Center (ADRC) at Washington University in St. Louis, and GERAS Hamilton Health Sciences (HHS), confirming high accuracy, high test-retest reliability, and robustness to both research-grade and clinical-grade MRI.

- ***BrainSee****'s* main input is routine clinical brain MRI, which is non-invasive and safe, requires no radiation exposure or contrast agent injection, and is widely available around the world.

- ***BrainSee*** **technology was officially approved by Nobel laureate, the late Prof. Paul Greengard**

- ***BrainSee*** **product suite accurately provides:**

  - Brain health screening for cognitively normal (CN) individuals
  - Prognosis of MCI (chance of conversion to AD) in various time windows: 1.5, 2, 3, 4, and 5 years
  - Prognosis of CN (chance of conversion to MCI) in various time windows: 1.5, 2, 3, 4, and 5 years
  - Whole brain quantitative degeneration maps
  - High-precision volumes of brain regions and the whole brain

- ***BrainSee*** software is run as a **service** by Darmiyan staff, with minimum burden on the imaging center only to upload the raw MRI data and receive the final reports.

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News

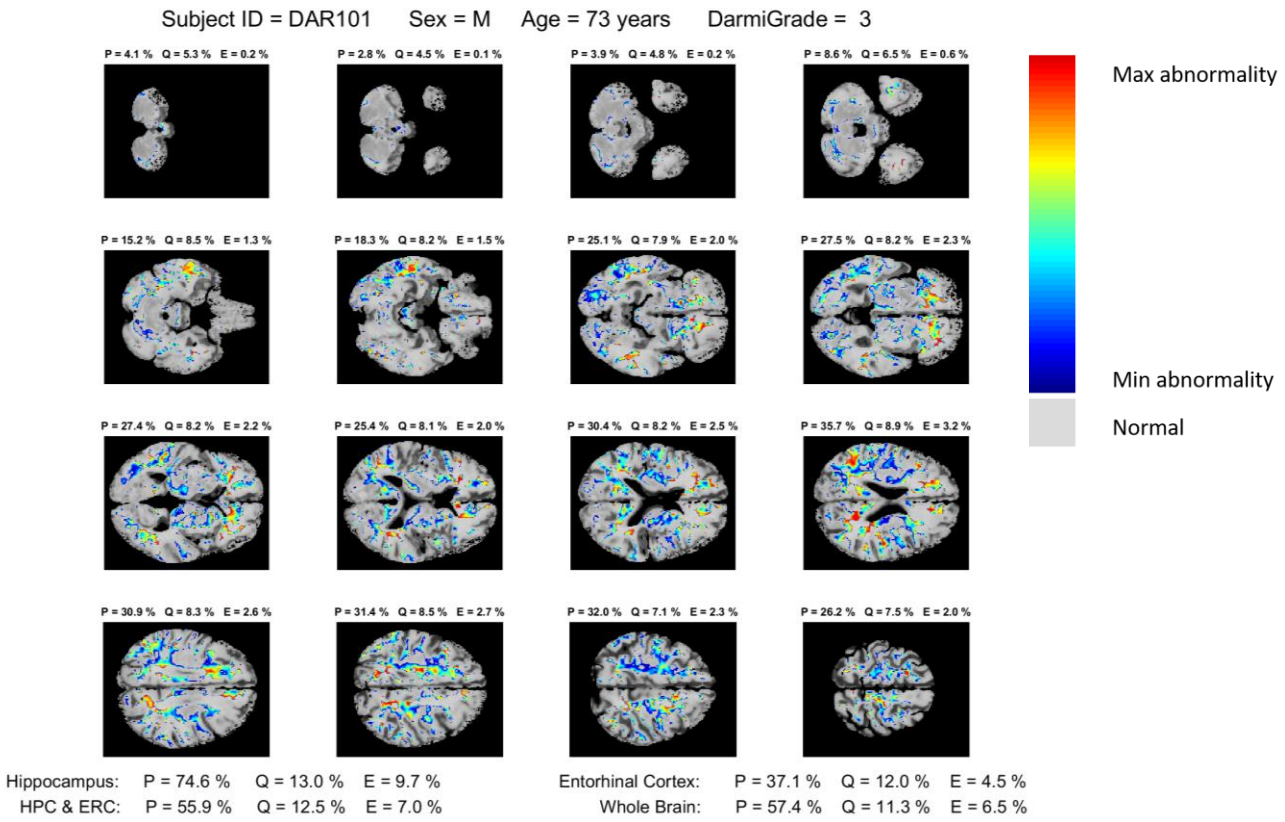
Darmiyan's virtual microscope shows high accuracy in new study

12 August 2020 (Last Updated August 12th, 2020 15:25)

Darmiyan's virtual microscope BrainSee has achieved high performance accuracy and consistency in measuring Alzheimer's-related abnormalities in a new study.

5-year prognosis (DarmiGrade)

- **Grade 1:** Most likely to improve or stay stable
- **Grade 2:** Could improve or stay stable
- **Grade 3:** Expected to worsen, may convert to dementia
- **Grade 4:** Most likely to convert to dementia



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What third-party investigators say

Dr. Jamshid Ghajar MD, PhD, FACS, Moghadam Family Director, Stanford Brain Performance Center, Clinical Professor of Neurosurgery, Stanford University School of Medicine

"Darmiyan's AI, machine learning algorithm using unique MRI microscopic voxel analysis with macroscopic input has generated a very sensitive and specific five-year prognosis for patients presenting with amnestic MCI. This technology has high test retest reliability and can be applied to any clinical grade MRI which is a very useful clinical tool to assist doctors advising patients with early memory complaints. In addition the BrainSee degeneration maps clearly show focal areas of degeneration. I believe this will be a widely used technology to assist doctors and patients navigating the difficult terrain of MCI."

Dr. Michael G. Harrington, MBChB, FRCP, Scientific Director of Neuroscience, Huntington Medical Research Institutes, Pasadena

"I am the PI of a longitudinal Brain Aging Study at HMRI for more than ten years. Our goal is to identify prodromal biomarkers and potential mechanisms of early dementia pathology of the Alzheimer type. Objective measures such as Darmiyan's BrainSee that can predict cognitive decline are strongly needed to recognize and monitor potential therapies. I have interacted with Darmiyan for over two years, sharing some of the data from our Brain Aging study participants. I am excited by the potential for objective ways such as Darmiyan's approach to predict cognitive decline, which can lead to better outcomes for patients and the healthcare system."

Dr. Bradley Buchsbaum, PhD. Cognitive Neuroscience Associate Professor at University of Toronto, Senior Scientist at Baycrest Institute & Rotman Institute

"Darmiyan's vision excited me because it offers a biologically-based, objective, and sensitive method for detecting changes in the brain that may first show up as subtle changes in memory and cognition and later, as neurodegenerative disease progresses, lead to more serious cognitive and functional deficits. The promise of a new tool that can give patients and their doctors a head start in planning for—and possibly even heading off—the advance of dementia is exactly what is needed right now, as the aging population grows larger."

Dr. David J. Mikulis, MD, Professor and Director of the JDMI Functional Neuroimaging Research Lab, University Health Network, The Toronto Western Hospital, and the University of Toronto

"As a member of the research team that evaluated Darmiyan's solution for predicting conversion of cognitive impairment to Alzheimer's dementia, I was impressed by the potential of this breakthrough technology. All study investigators are optimistic that the solution will be successful providing a much-needed predictor of disease progression. It may therefore fill a significant diagnostic gap highly valued by patients, clinicians, and clinical researchers."

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Darmiyan *BrainSee* vs. State of the art

Technology	Darmiyan Virtual microscope	MRI-based brain Volumetry	Amyloid or Tau PET scans
Product name	BrainSee	NeuroQuant; Neuroreader; etc	AV45 AV-1451
Manufacturer(s)	Darmiyan	CorTechs Labs; Brainreader APS	Eli Lilly
Description	AI-powered virtual microscopy of the brain	Confirm regional & global atrophy	Biomarker visualization & quantification
Diagnostic accuracy for Alzheimer's disease	High in all stages	High in dementia Low in MCI	High in dementia Low in MCI
Prognostic accuracy	High	Low	Medium
Non-invasive	Yes	Yes	No
Useful for presymptomatic detection	Yes	No	No
Useful for cognitive wellness guidance	Yes	No	No

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Darmiyan *BrainSee* vs. State of the art

Technology	Darmiyan Virtual microscope	MRI-based brain Volumetry	Amyloid or Tau PET scans
Cost	Medium	Medium	High
Scalability	High	High	Low
Workflow integration	Simple	Simple	Medium
Customizable implementation	Yes	Yes	No
Throughput	High	High	Low
Worldwide availability	Yes (MRI)	Yes	No
Applicable to other brain diseases	Yes	No	No

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