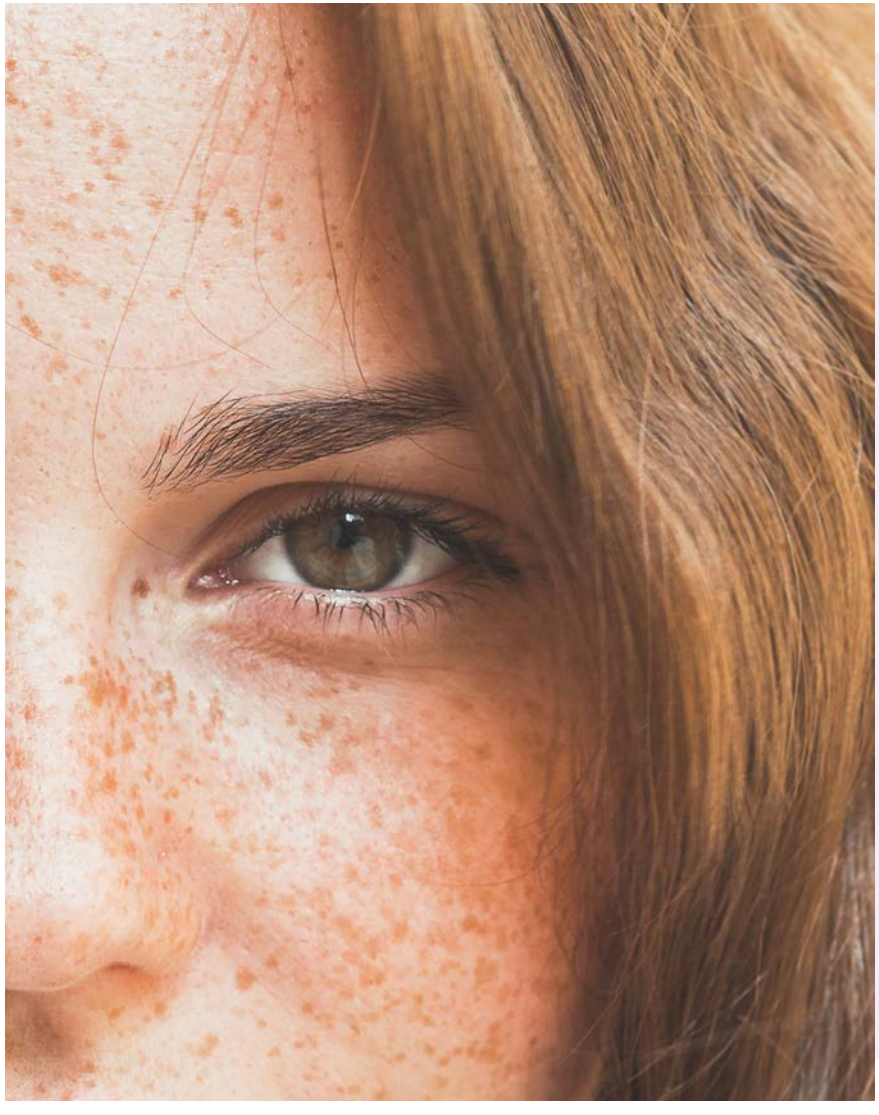
OPTOMED PRESENTATION 16.6.2020

Optomed AI

OPTOMED

Copy approved for external use



What is AI

- **Artificial intelligence (AI)**, the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings.

- Some programs have attained the performance levels of human experts and professionals in performing certain specific tasks, so that artificial intelligence in this limited sense is found in applications as diverse as medical diagnosis.

(*Encyclopedia Britannica)*

OPTOMED

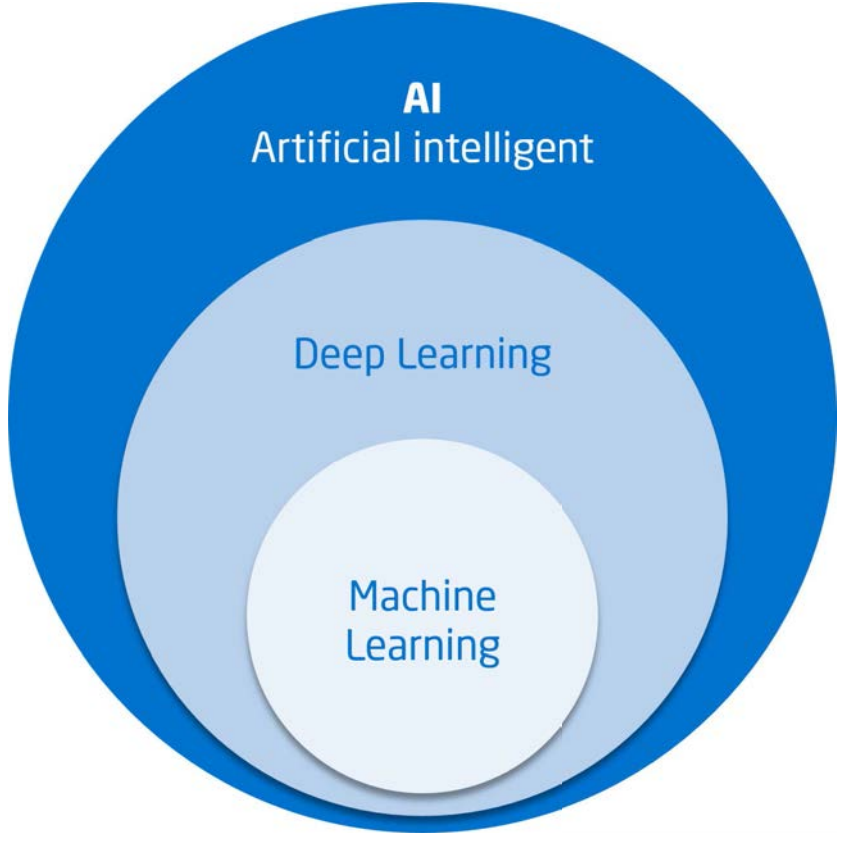
Machine Learning & Deep Learning in AI

Machine Learning

- A subfield of AI
- System that improves their performance in a given task with more and more experience or data

Deep Learning

- A subfield of Machine Learning, which itself is a subfield of AI
- Refers to certain kinds of Machine Learning techniques where several “layers” of simple processing units are connected in a network so that the input to the system is passed through each one of them in turn. This architecture has been inspired by the processing of visual information in the brain coming through the eyes and captured by the retina. This depth allows the network to learn more complex structures without requiring unrealistically large amounts of data.

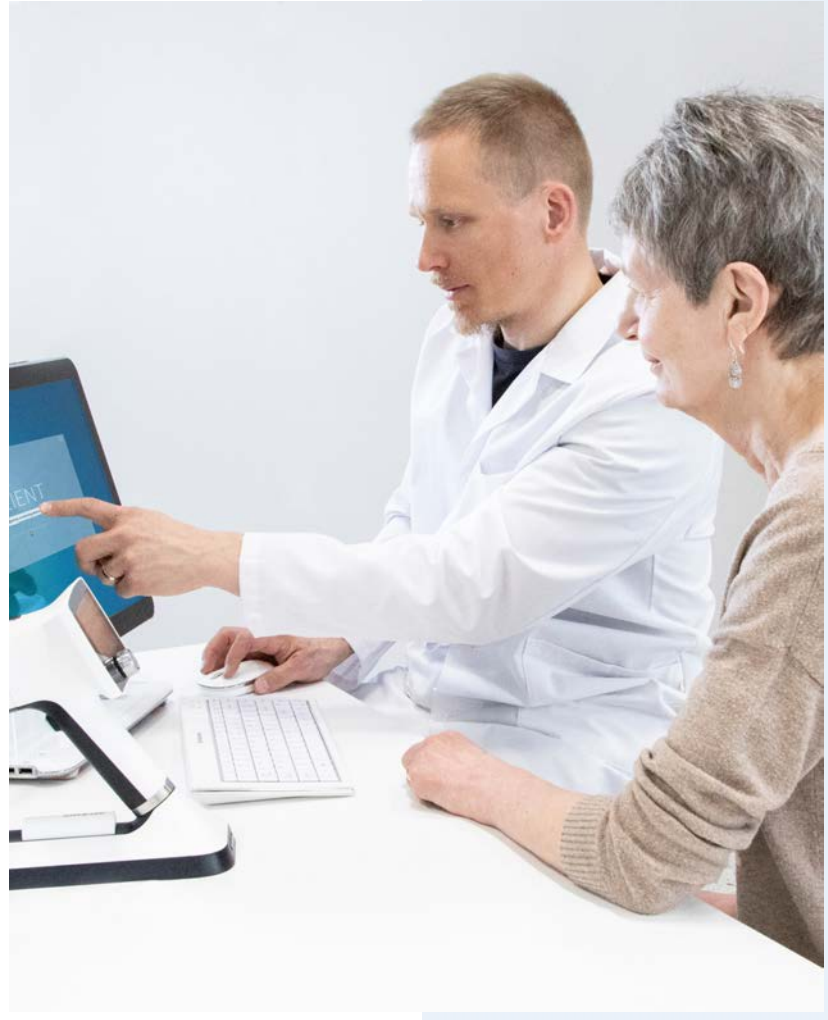


OPTOMED

The benefits of AI

- (Extra) Resource
- Steady performance
- Fast & Tireless
- Accessible anytime & anywhere
- Screening to patients and hard to reach places
- No necessary need for doctor
- No unnecessary visits to hospital for additional testing
- Faster and more efficient
- Cost-effective

ATTN! Algorithms are only as good as they've been trained to be – Garbage in, garbage out



OPTOMED

AI for the EYE disease - today

Diabetic retinopathy, DR

- Algorithms available
- Imaging is an issue technically

Age-related Macular Degeneration, AMD

- Affects macula, the retinal region of sharp vision
- 'Dry' (less severe, ~90% of cases) and 'Wet'
- Fundus image followed by OCT

Glaucoma

- Affects the optic nerve; alteration in the cup-disc ratio
- No symptoms in early phase > Screening!
- Intraocular pressure measurement and OCT imaging

DR, AMD, glaucoma combined cause ~25% of blindness.

OPTOMED

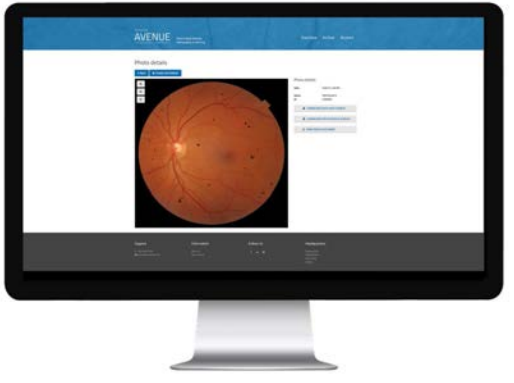
OPTOMED'S AI SOLUTION

What is Changing?

"OLD" AI Solution

Optomed Orbit

Retinalyze server



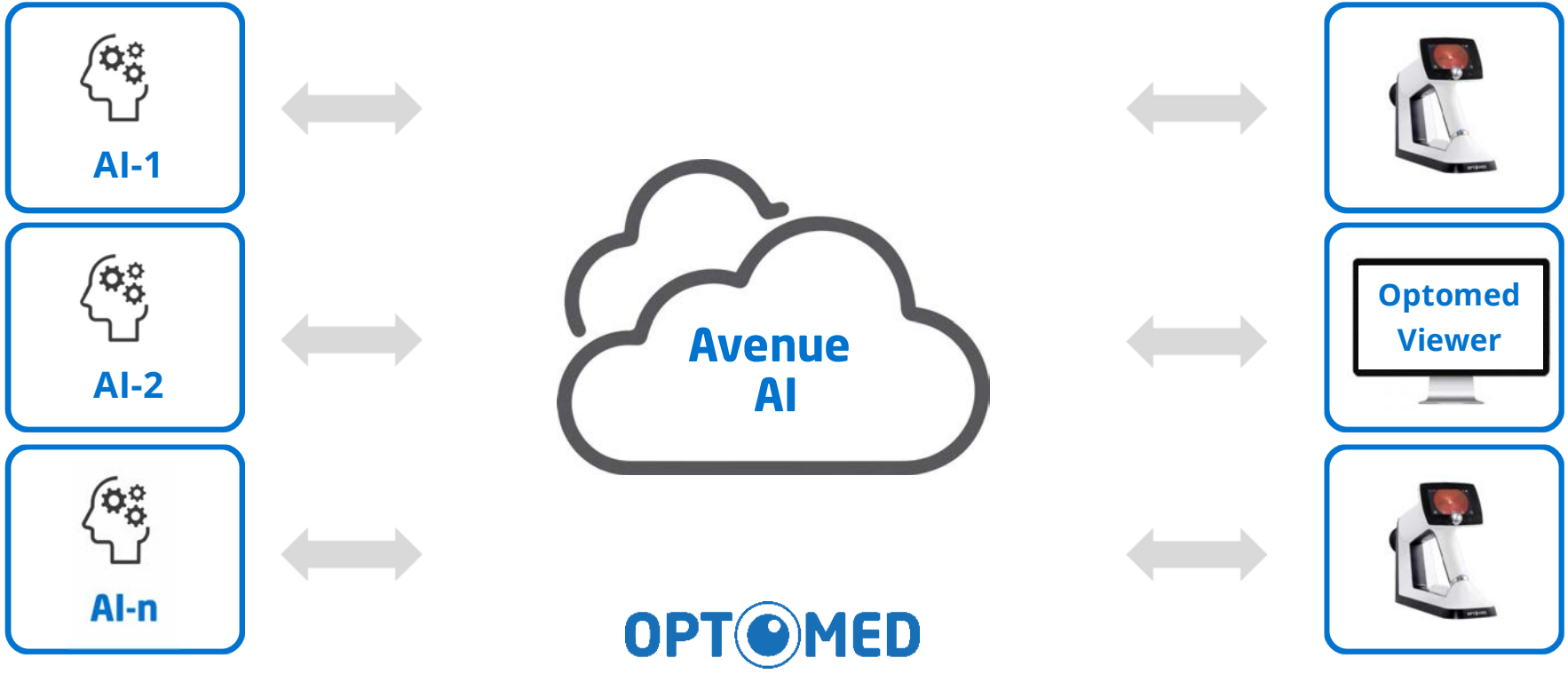
Optomed Avenue
www.optomedavenue.com

OPTOMED

OPTOMED'S AI SOLUTION

What is Changing?

"NEW" AI Solution



Partnering with the Best

Optomed's strategy is to find the best-fit AI-partners instead of developing AI by ourselves.

OPTOMED

Partnering with the Best

We evaluate and select partners based on:

1. Clinical validity

- Disorders screened for?
- Evidenced clinical performance?
- Future plans?

2. Commercial validity

- Feasible business model
- Geographical strengths?
- Non-exclusivity

3. Regulatory validity

- Current approvals
- Pending approvals
- Future plans for approvals

4. Algorithms for

- Diabetic retinopathy, DR
- Age-related Macular Degeneration, AMD
- Glaucoma

5. Partners come from

- Europe
- North America
- Asia

6. Regulatory approvals now

- CE
- FDA
- Singapore, Korea, Malaysia

OPTOMED

OPTOMED

CORPORATION