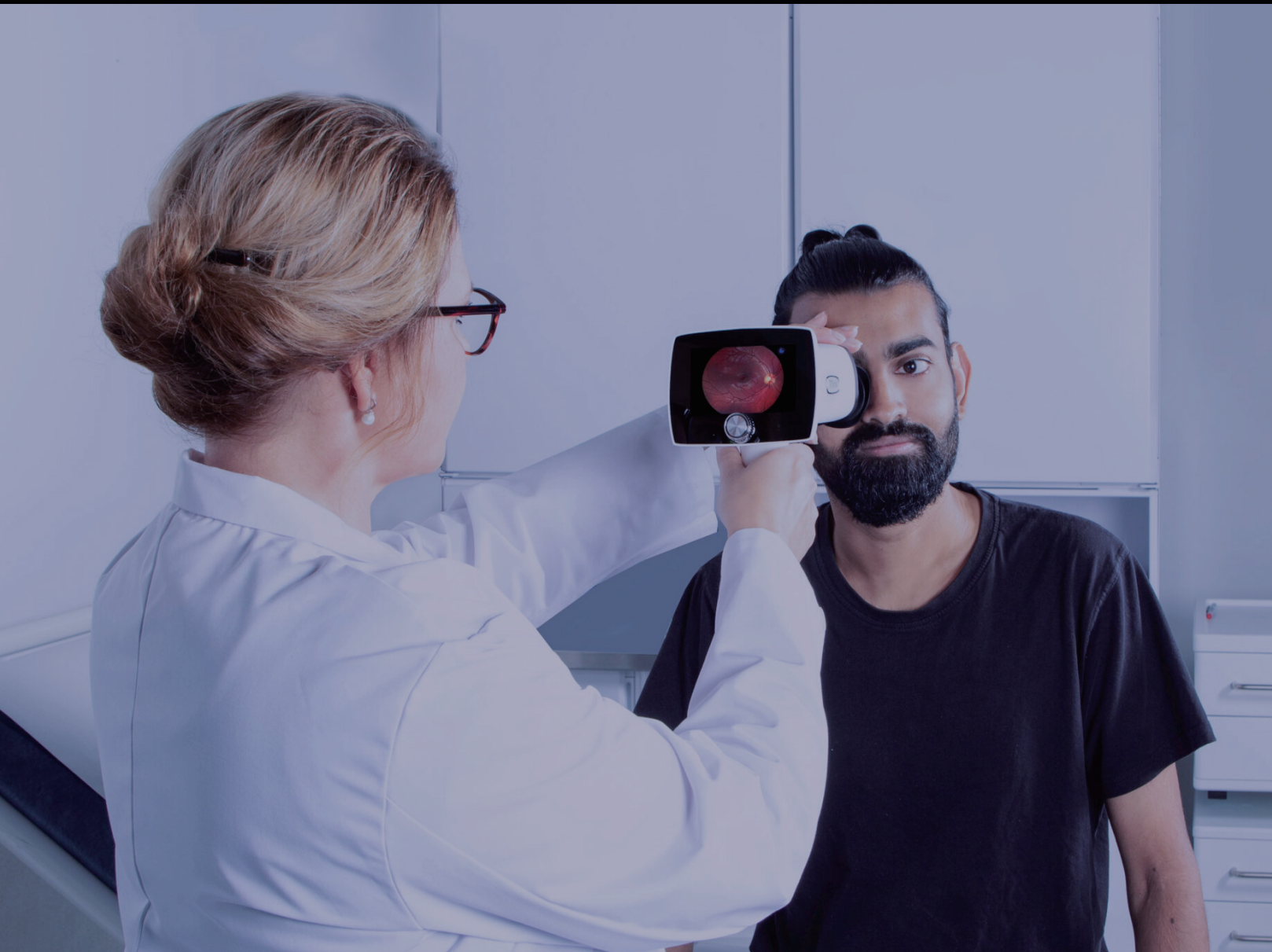AI for Human Benefit, Everywhere

JOD-01K

AI based Handheld Eye Fundus Camera

MEDIHUB FUNDUS

JLK

JOD-01K AI based Handheld Eye Fundus Camera & AI Analysis Solution

Summary

Early detection is very important for most eye diseases, but diagnosis with fundus image is highly influenced by the ophthalmologist's personal clinical experience. Also, it can take too much time and may miss small features such as micro-arthritis. Artificial intelligence-based fundus image analysis technology is needed to enable ophthalmologists to diagnose more accurately and consistently.

JOD-01K is an artificial intelligence-based medical solution that extracts various features related to Diabetic Retinopathy (DR), Age-related Macular Degeneration (AMD), and Glaucoma diagnosis, which are representative geriatric ophthalmic diseases. JOD-01K provides DR severity score, Optic Cup/Disc segmentation, and Cup/Disc ratio calculation to help diagnose Glaucoma. Furthermore, it provides Drusen segmentation to help diagnose AMD.

Key Components & Performance

DR diagnosis	Glaucoma diagnosis	AMD diagnosis
Open dataset AUC : 96% / Kappa score : 78%	Open dataset Dice score : 90%	Single Institution data Dice score : 79%
Analysis time : within 1s	Analysis time : within 0.2s	Analysis time : within 1s

· Simple image input/output function through PACS interworking module

· Visualizing and saving results through our own UI

Input / Output

· **Input Data**   Patient's Fundus image
· **Output Information**   DR severity score, Optic Cup/Disc segmentation and Cup/Disc ratio,
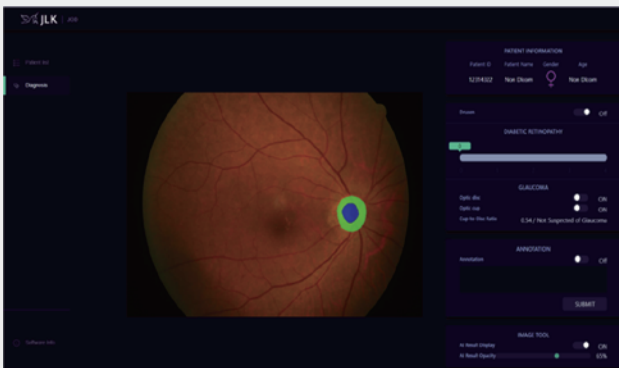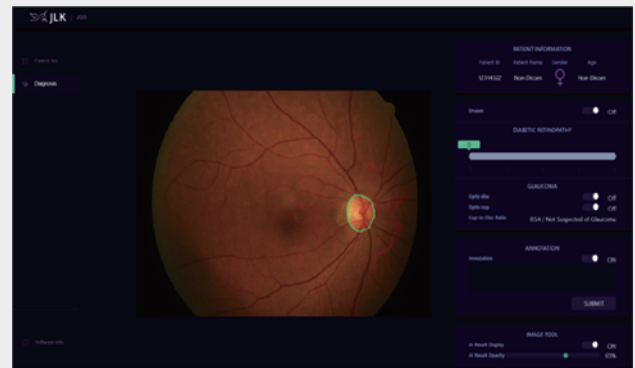   Drusen segmentation

Solution UI
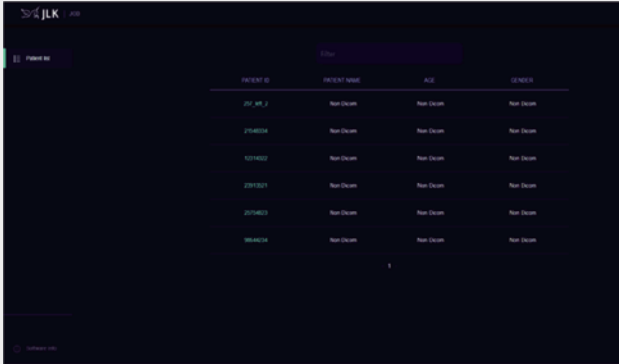
1 Patient registration management

2 DR and Glaucoma results

3 Visualize segmentation results of Optic Cup/Disc and its ratio

4 Optic Disc Annotation

Unique Functionality

· AI based DR severity score
· AI based optic cup/disc segmentation and visualization
· Optic cup/disc radius ratio
· Automatic Drusen detection and visualization
· Annotation tool for lesion marking and correction
· Non-mydriatic fundus compatibility

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