

Automated Biomarker Prediction Using Optical Coherence Tomography

Tech ID: 31929 / UC Case 2020-467-0

SUMMARY

UCLA researchers in the Department of Computational Medicine have developed a computer program capable of automatically and accurately diagnosing optical diseases using OCT.

BACKGROUND

Optical diseases, such as age-related macular degeneration, are serious issues that, if left untreated, can result in partial and even complete blindness. Current diagnosis methods are time consuming and expensive as specially trained physicians are needed to perform and analyze the eye exam results. This leads to both longer diagnosis times and incomplete diagnoses as there may have been unexamined data that physicians did not have time to examine. There is a need for an automated method that can accurately review images and determine a diagnose to reduce costs and improve patient care.

INNOVATION

Researchers at UCLA have developed a computer program that can diagnosis ocular diseases using information gathered from optical coherence tomography (OCT). The program has been successfully tested to make an accurate diagnosis and requiring fewer images compared to a trained physician. By automating this process, this program reduces workload spent by medical professions reviewing images and allows them to review images on an as needed, rather than required, basis. In addition, because human input is not involved, this optimizes the clinical workflow by reducing the workload on physicians and providing additional protection from misdiagnosis.

APPLICATIONS

- ▶ Diagnosis of ocular diseases
- ▶ Potential use with other imaging devices like MRIs

ADVANTAGES

- ▶ Very accurate with less data
- ▶ Can be applied for multiple diagnosis
- ▶ Helps to optimize clinical workflow
- ▶ Automated

STATE OF DEVELOPMENT

The program has successful been able to determine diagnoses based on provided images.

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	12,499,535	12/16/2025	2020-467
European Patent Office	Published Application	4 093 289	11/30/2022	2020-467

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- ▶ [FEAST - Fast Expectation-Maximization Microbial Source Tracking](#)

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INVENTORS

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OTHER INFORMATION

KEYWORDS

Ocular Diseases, Optical Coherence Tomography, Age Related Macular Degeneration, Vision, Blindness, Eye Disease, Macula, Severe Vision Loss

CATEGORIZED AS

- ▶ [Medical](#)
- ▶ [Software](#)

RELATED CASES

2020-467-0

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