

EyeCV: A Novel Tool for Rapid, Accurate, and Reproducible Screening of Endothelial Cell Morphology in Diseased and Healthy Corneas

Tech ID: 34844 / UC Case 2023-517-0

ABSTRACT

Researchers at the University of California, Davis have developed a machine learning-based platform for early, accurate, and efficient detection of endothelial disease from corneal images assessment.

FULL DESCRIPTION

This technology is a machine learning solution that efficiently evaluates the morphological features of endothelial cells. The technology includes a custom dataset for training the model, segmentation based on deep learning, and a comprehensive analysis report to assist veterinarians. It serves as a diagnostic tool, removing subjectivity from endothelial cell evaluations and supporting the assessment of treatment outcomes.

APPLICATIONS

- ▶ Diagnostic tool for detecting endothelial cell diseases in animals.
- ▶ Platform for tracking disease progression and treatment effectiveness.
- ▶ Clinical decision support tool for veterinary care.
- ▶ Potential application in human subjects with appropriate data.

FEATURES/BENEFITS

- ▶ Fast and accurate evaluation of endothelial cells.
- ▶ Exceptional dataset for training the model.
- ▶ Productive platform to assess the efficiency of treatment protocols.
- ▶ Offers better clinical decision support in veterinary care.
- ▶ Mitigates time-consuming manual methods for assessing corneal endothelial cells.
- ▶ Addresses subjectivity and variability in endothelial cell evaluations.
- ▶ Solves difficulty in tracking disease progression and measuring the impact of treatments.

PATENT STATUS

Country	Type	Number	Dated	Case
Patent Cooperation Treaty	Reference for National Filings	WO 2024/182683	09/06/2024	2023-517

Patent Pending

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OTHER INFORMATION

KEYWORDS

artificial intelligence,
corneal endothelial cell
disease, deep learning,
disease progression,
quantitative morphology

CATEGORIZED AS

- ▶ **Biotechnology**
- ▶ Health
- ▶ **Imaging**
- ▶ Medical
- ▶ **Medical**
- ▶ Diagnostics
- ▶ Disease:
Ophthalmology and
Optometry
- ▶ Imaging

- ▶ Screening
- ▶ **Veterinary**
- ▶ Companion
- Animal
- ▶ Diagnostics
- ▶ Therapeutics

RELATED CASES

2023-517-0

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- ▶ [Algorithmic Lifestyle Optimization in Personalized Medicine](#)

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