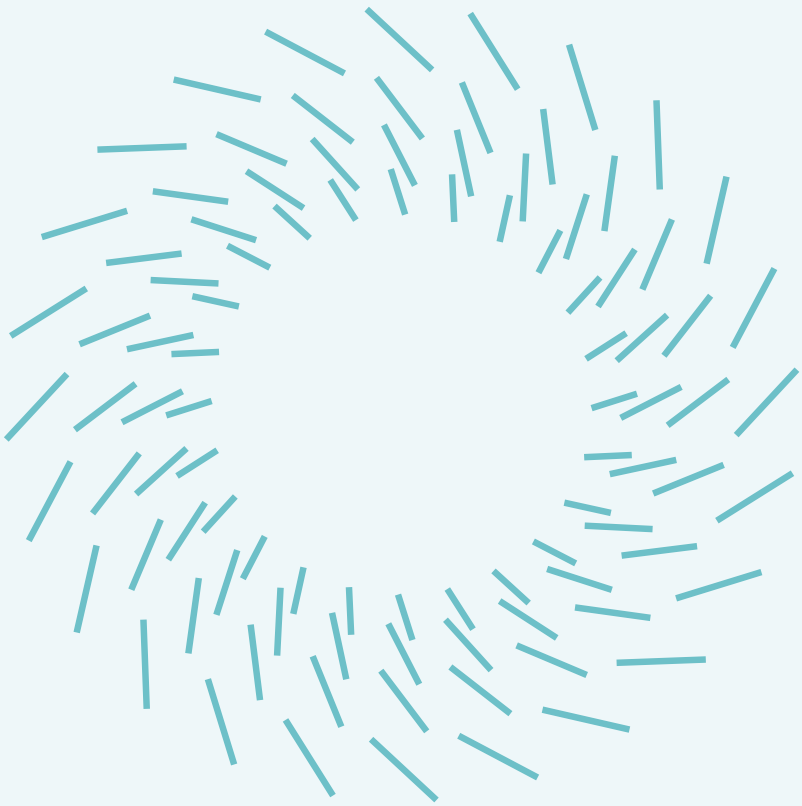
aview: COPD

Deep learning AI-based automatic COPD analysis solution



Chronic Obstructive Pulmonary Disease

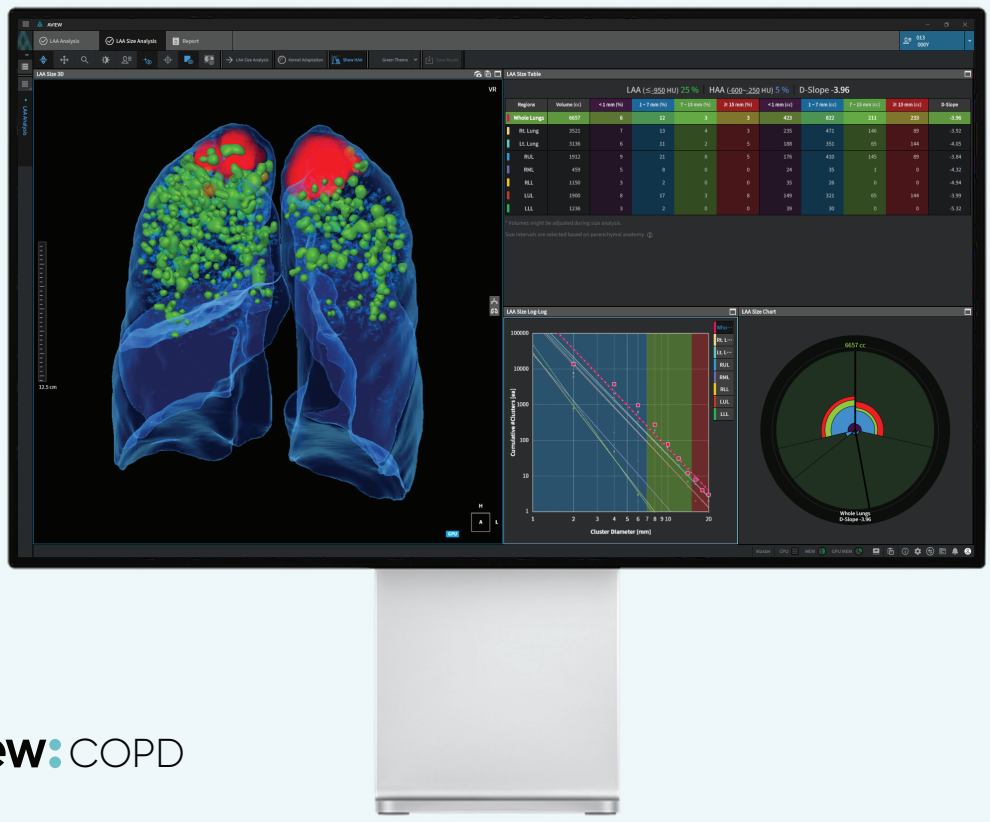
coreline

Introduction

Analyzes chronic obstructive pulmonary disease on chest CT images with deep learning AI technology

core:line's aview:COPD performs
automatically pre-processing in lungs, lung lobes, and airway and quantitatively analyzes chronic obstructive pulmonary disease.
A report with detailed results is automatically generated.

By clearly classifying and Clearly classify and analyze phenotypes of chronic obstructive lung disease



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Performance Validation

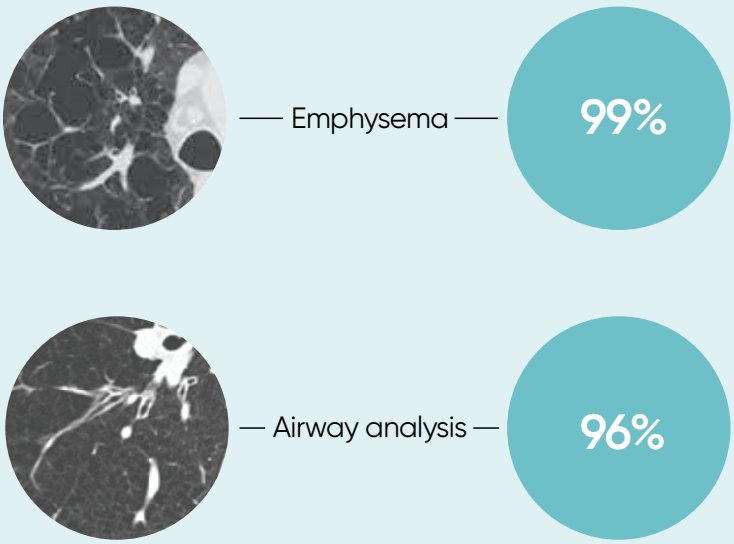
Automatic analysis agreement

Emphysema 99% Airway analysis 96% Air trapping 99%

Verification results

- It's verified for the concordance and accuracy comparing with the manual analysis by reading specialists and AI automatic analysis using 192 CT image data from COPD patients.

Concordance between reading specialists and AI



RSNA Radiological Society of North America

Heejun Park, MS, Jaeyoun Yi, PhD, Donghoon Yu MS, Hyungi Seo MS, Jongha Park, MS, Jihye Yun, PhD, Namkug Kim, PhD, Sang Min Lee A, MD, Sang Min Lee B, MD, Joon Beom Seo, MD, PhD, "Fully Automated Workflow for Advanced Quantitative Analysis on Multi-Volume Chest CT of Patients with Chronic Obstructive Pulmonary Disease using Deep Convolutional Neural Net and Conventional Image Processing" RSNA2018, Chicago IL

※ investigational use only

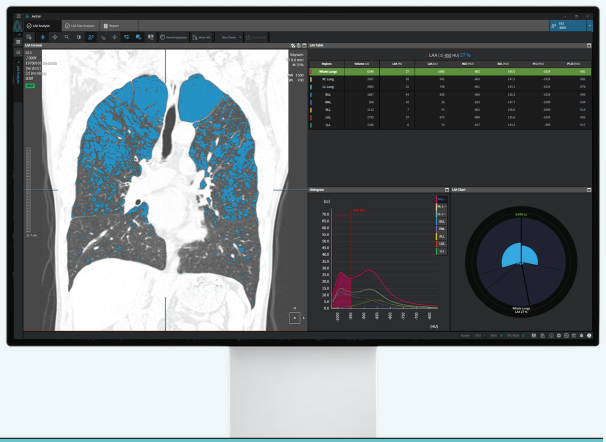
Key features

The latest indicators of COPD analysis

Providing various charts and graphs according to the phenotype

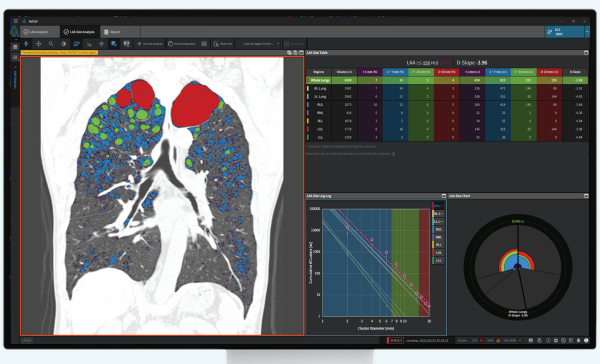
1. LAA analysis

- Checks emphysema on MPR images
- Offers the volume of the lung & lobes
- Provides emphysema volume & numerous analyzed values in the lung & lobes
- Examines emphysema distribution through histograms & charts



2. LAA size analysis

- Checks emphysema cluster on MPR image
- Offers the volume of the lung & lobes
- Provides volume & D-slope values of lung & lobe emphysema cluster
- Examines emphysema distribution through graph & charts



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* 510(k) Submission pending

3. Fissure analysis

- Fissure integrity analysis
- Offers analysis of each lung lobe.

4. Airway analysis

- Checks 3D airway segmentation
- Provides AWT-pi10 by airway & volume analysis
- Offers multiple analysis values of the airway diameter and wall are provided.

5. Lung vessel analysis

- Provides diameter, area & count analysis of pulmonary vessels.
- TBV & BV5,BV10 analysis available
- Offers various analysis values through histograms & charts.

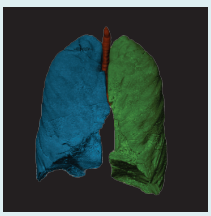
* 510(k) Submission pending

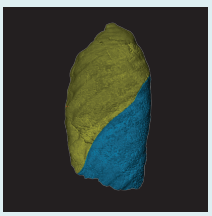
Key features

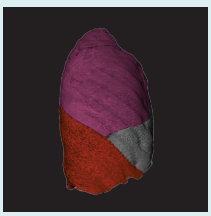
Shortens working time, improves work efficiency

Rapid pre-processing

- Expeditely pre-processes to automatically segment lungs, lobes, airway.


Lung


Left Lobes

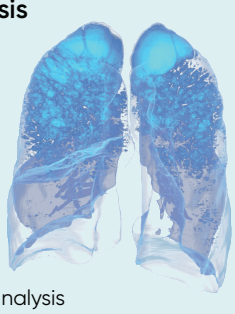

Right Lobes


Airway

Deduction of analysis values for phenotype classification

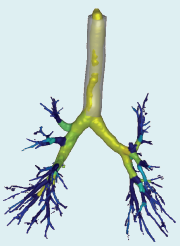
- Analyzes each result by one click.

Emphysema analysis



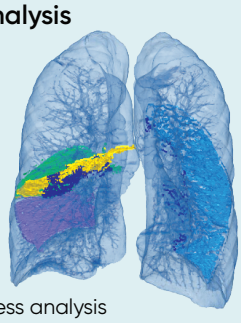
Lobe segmentation
*LAA analysis / *HAA analysis

Airway analysis



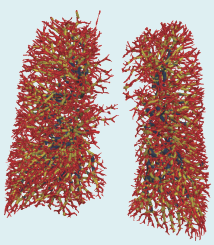
Airway segmentation
Airway thickness

Fissure integrity analysis



Fissure detection
Five Fissure completeness analysis

Lung vessel analysis



Lung vessel segmentation
Lung vessel analysis

* LAA : Low Attenuation Area / HAA : High Attenuation Area

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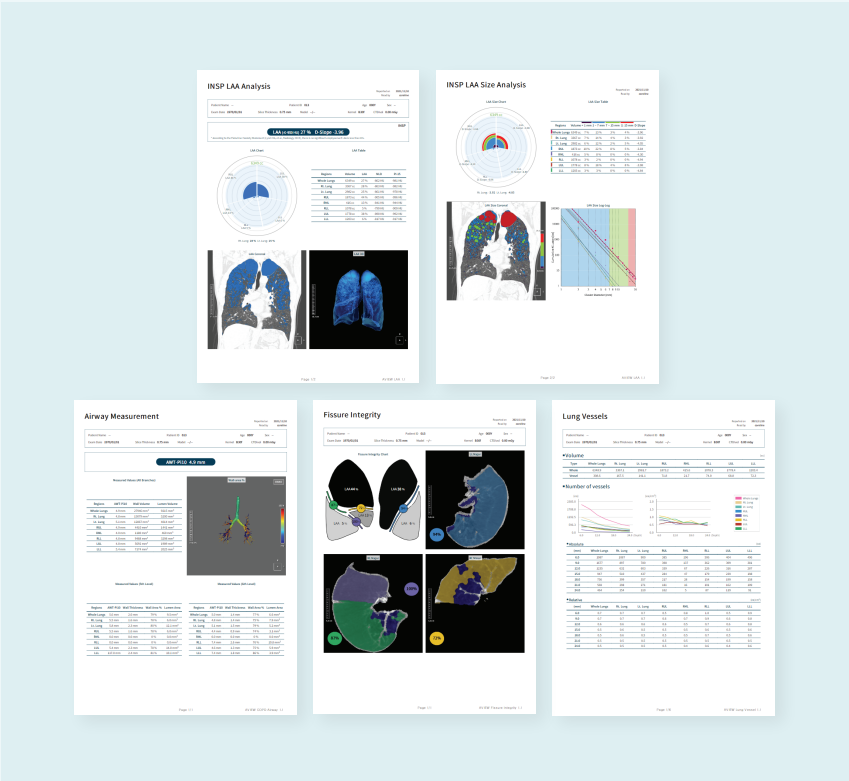
Key features

Linking and managing data becomes easier.

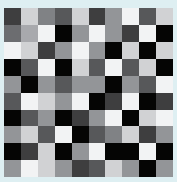
Report

- Check a report anytime, anywhere through your web browser provided with detailed results.



Quantification data extraction

- You can conduct the radiomics research about the pulmonary function with the quantitatively calculated and comprehensively extracted indicators.



Radiomics

- Texture features
- Shape features
- Fractal features

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Quantitative analysis of chronic obstructive pulmonary disease.

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T. +82-2-571-7321 E. o_sales@corelinesoft.com
www.corelinesoft.com