

Pi-CanImageln



Technological advancements in data and artificial intelligence are redefining the way lung cancer is detected and diagnosed.

There is a need for a comprehensive and user-friendly solution that combines advanced AI models with other tools for imaging analysis and early detection.

Persistent Systems’s Pi-CanImageln integrates AI models and computational tools to enable efficient early cancer detection.

Utilizes ML embeddings and fine-tuned models to analyze chest X-ray images and detect lung abnormalities, significantly improving the diagnostic process.

Integrates patient Electronic Health Record (EHR) data with chest X-ray image patterns to predict lung cancer risks.

Streamlines the reporting process by automatically generating standardized reports.

Pi-CanImageln is an innovative solution designed to improve the efficiency of radiology workflows by leveraging machine learning models and generative AI.

It aims to enhance the efficiency and accuracy of cancer screening, making the process more streamlined and effective.

The currently implemented use-case is for early-stage Lung cancer detection using Chest X-Rays (CXR) and has been designed to improve the efficiency of the lung cancer screening process. The solution identifies suspicious cases that will need further diagnostic investigations with CT scans.

Lung cancer is the leading cause of cancer mortality globally, resulting in two million deaths per annum. Despite the high incidence, early detection remains a challenge.



There is a global shortage of radiologists, particularly in underserved areas.



Subtle signs of early-stage lung cancer can be easily missed, leading to misdiagnosis and delayed treatment.

Pi-CanImageIn works in three phases

Phase 1: EHR Data Preprocessing

Converts unstructured data to structured data using GenAI and integrates it into EHRs.

EHR Module

Records audio conversations between the physician and patient, and integrates it into EHRs

Risk Stratification

Assesses lung cancer risks based on patient data, conversations and historical data

Phase 2: CXR Image Analysis

Analyzes CXR images with deep learning model and fine tuned LMMs to identify abnormalities.

ML for Detection

Analyzes CXR images with a pre-trained deep learning model to identify lung cancer-related abnormalities

Fine Tuned LMM

Utilizes fine tuned PaliGemma a model for improved image-to-text conversion of abnormal CXR images

CXR Similarity Search

Uses CXR Foundation Models to cross-match patient CXR images with a repository for second opinions

Phase 3: Smart Report Builder

Organize data and generate smart reports.

Automated Report Generation

Leverages GCP GenAI to streamline the creation of comprehensive reports

Workflow Drafts

Capture crucial steps of workflow as drafts and generate smart reports enriched by GCP LLM

Time and Cost Efficiency

Significantly reduces the time and effort required for X-ray analysis process

Why CanImageln?

Enhanced Early Detection

By leveraging advanced AI models, CanImageln significantly improves the early detection of lung cancer, leading to better patient outcomes and potentially saving lives.

Efficiency and Accuracy

The integration of machine learning and generative AI streamlines the diagnostic process, reducing the workload on radiologists and ensuring more accurate and consistent results.

Positive Impact on Healthcare

Addresses a critical need in the diagnosis, ultimately enhancing the overall efficiency and effectiveness of cancer screening.

Scalability and Adaptability

Implements the solution on a scalable platform to handle large volumes of data, ensuring consistent and reliable results across different healthcare settings.

Start your Pi-CanImageln journey today. Reach out to a specialist to identify next steps.

Contact Us

About Persistent

Persistent Systems (BSE & NSE: PERSISTENT) is a global services and solutions company delivering Digital Engineering and Enterprise Modernization to businesses across industries. With over 23,900 employees located in 19 countries, the Company is committed to innovation and client success. Persistent offers a comprehensive suite of services, including AI-enabled software engineering, product development, data and analytics, CX transformation, cloud computing, and intelligent automation. The Company is part of the MSCI India Index and is included in key indices of the National Stock Exchange of India, including the Nifty Midcap 50, Nifty IT, and Nifty MidCap Liquid 15 as well as several on the BSE such as the S&P BSE 100 and S&P BSE SENSEX Next 50. Persistent is also a constituent of the Dow Jones Sustainability World Index. The Company has achieved carbon neutrality, reinforcing its commitment to sustainability and responsible business practices. As a participant of the United Nations Global Compact, Persistent is committed to aligning strategies and operations with universal principles on human rights, labor, environment, and anti-corruption, as well as take actions that advance societal goals. With 327% growth in brand value since 2020, Persistent is the fastest-growing IT services brand in the 2024 Brand Finance India 100 Report.

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