

# 4th- IR Virtual Clinical Imaging Analyst

Improve the accuracy of  
image analysis

## The customer service landscape

Artificial intelligence and deep learning is transforming the healthcare industry towards early and more accurate diagnosis. The application of machine learning is resulting in high-quality medical imaging which in turn improves medical decision-making and reduces costly errors such as unnecessary medical procedures. The end users of medical imaging are patients, doctors and computer vision researchers.

Patient diagnosis and treatment via high-quality medical imaging can avoid invasive and life-threatening procedures. Minimizing the risk caused by these procedures also helps in reducing the cost incurred and time taken by those procedures.

Medical imaging is an ever-changing technology, pushed forward by advancements in the field of computer vision. Deep learning uses methods to complete diagnosis in a state-of-the-art manner to identify abnormalities in images efficiently. The successful application of deep learning algorithms in image analysis allows for a wide variety of solutions to challenges such as disease diagnostics to personalized and timely treatment.

The Virtual Clinical Imaging Analyst applies deep learning algorithms that help health specialists improve the speed and accuracy of interpreting diagnostic images.

## Facts & Figures

Images currently account for up to **90%** of all medical data, making it the **largest data source in the healthcare industry**.

The **market value of AI** in healthcare is projected to skyrocket from **\$600M** in **2014** to **\$6.6B** in **2021**.

**Automated image diagnosis** in healthcare is estimated to bring in up to **\$3B**, also promising major savings.

Sources: IBM researchers, Accenture

## Challenges tackled by the 4th – IR Virtual Clinical Imaging Analyst

- **Exponential Growth in Data**  
High volumes of data extend the medical imaging review process leading to clinician fatigue and burnout
- **Human-related diagnostic errors**  
Human limitations in sight and interpretation are compounded by a lack of data interoperability, leading to diagnostic errors and oversights
- **Quality Control**  
Errors and limitations in image quality can create challenges in interpretation

## Features



### Image Annotation

Associates an entire image, or a section of an image, with a unique identifier for easy and coordinated retrieval



### Image Recognition

Analyzes customer and agent-provided images to assess physical damage and estimate claims



### Pattern Recognition

Classifies data and identifies clusters of patterns using unsupervised learning



### Anomaly Detection

Identifies data points, events, and/or observations that deviate from normal behaviours

## Advantages

### Efficiency

Healthcare specialists using -computer guided image analysis improves diagnostic confidence and patient outcomes, reducing the cost of care.

### Real-Time medical imaging

AI algorithms are deployed to speed up the process of identifying patterns and abnormalities in real-time, surpassing the ability of human radiologists.

### Process automation

The automation, mining, and structuring of data is enabled by leveraging AI in medical imaging technology.

### Process automation

Regular medical images are reconstructed into 3D imaging through AI and machine learning - making diagnosis more accurate and faster than human diagnosis.

## The Virtual Workforce of the Future

We're unlocking the collaborative intelligence between humans and machines to transform the future of work, so every company achieves competitive advantage by leveraging Artificial Intelligence.