Healthcare Tech OUTLOOK
CONNECTING THE HEALTHCARE TECHNOLOGY COMMUNITY

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Top 10 Artificial Intelligence Solution Providers - 2018

The espousal of artificial intelligence (AI) in healthcare is on the rise and solving a variety of issues for patients, care providers, and the industry as a whole. From designing treatment plans through assistance in repetitive jobs to supervising medication or creating drugs, AI is bringing a paradigm shift to healthcare. The most evident implementation of AI in healthcare is data management—collecting, storing, normalizing, and tracing the lineage of medical records to provide clinicians with literally all the information they need to make viable decisions. Into the bargain, artificial intelligence is also envisioned to make a huge impact on precision medicine and genomics. Mutations and linkages to diseases can now be pursued by identifying patterns in large data sets of genetic information and medical records. A fresh batch of computational technologies is underway, embodying the capacity to detect what will happen within a cell when DNA is altered by genetic variation—be it natural or therapeutic.

Meanwhile, AI is even powering a serious debate on whether machines will eventually replace human physicians in the future. While the answer to this is yet to unfold, AI is definitely fostering better clinical decision making while also serving as an alternative for human judgment in specific functional areas of healthcare such as radiology.

Companies striving to mount higher in the healthcare value chain look for the best solution providers. To help CIOs navigate this flourishing landscape, a distinguished panel of selectors, consisting of CEOs, CIOs, VCs, industry analysts, and Healthcare Tech Outlook's editorial board has shortlisted the top artificial intelligence solution providers that are at the forefront of meeting the urgent needs of the industry. The listing offers a look at how these solutions are put to use, thereby enabling you to gain a deep insight as to how they will optimize businesses.

We present to you Healthcare Tech Outlook's Top 10 Artificial Intelligence Solution Providers - 2018.

Company:
iCAD

Description:
iCAD is a market leader in advanced breast cancer detection software solutions built on artificial intelligence, that enable radiologists to find breast cancers earlier while improving reading workflow

Key Person:
Ken Ferry
CEO

Website:
icadmed.com

iCAD

Conquering Breast Cancer through Deep Learning

The collaboration between technology and medical science is advancing to protect and preserve life. According to Breastcancer.org, about one in eight U.S. women will develop invasive breast cancer during her lifetime. Two-thirds of women with breast cancer have the potential to be saved through early detection and progressive treatments.

Medical facilities worldwide are adopting Digital Breast Tomosynthesis (DBT) technology as their preferred method for screening and diagnostic mammography for detection of breast cancer. While there are many advantages with DBT such as improving the early detection of breast cancer, there are also some considerable challenges for radiologists. For example, a DBT exam now creates a much larger data set as compared to FFDM and is time consuming and somewhat daunting for radiologists.

A typical 2D digital mammography exam produces four images, while a 3D mammogram- or DBT produces more than a hundred images. With DBT, radiologists find they must spend significantly more time to review and interpret each exam. However, with innovative technologies available today, such as iCAD's PowerLook Tomo Detection, a first-of-its-kind, concurrent-read cancer detection solution for breast tomosynthesis, radiologists can leverage Artificial Intelligence (AI) and deep learning tools that reduce their DBT interpretation time by an average of 29.2 percent and improve reading workflow.

The software uses a highly sensitive and unique algorithm to rapidly and precisely identify regions of interest in the tomosynthesis data set and blends those regions onto the GE synthetic image. This process results in a single enhanced image that highlights potentially cancerous lesions, creating an efficient and effective overview image and navigation tool for radiologists.

"Built on deep learning technology, PowerLook Tomo Detection is proven to optimize breast tomosynthesis reading efficiency, streamline workflow, and support cancer detection without increasing recalls," says Ken Ferry, CEO, iCAD. Since its FDA-approval in March 2017, and CE and Health Canada in 2016, PowerLook Tomo Detection has been implemented by a number of leading breast health provider organizations worldwide. While currently only available with GE Healthcare's DBT platforms as Enhanced V-Preview, iCAD is developing a multi-vendor solution expected to be available in 2018.

While early diagnosis is a defining element of successful treatment and survival outcomes, a study by Dr. Richard Benedikt et al. 2017 was conducted to evaluate the radiologist's reading time, accuracy, and performance. The study found that iCAD's concurrent DBT CAD solution decreased radiologist reading time by almost 30 percent without sacrificing performance.

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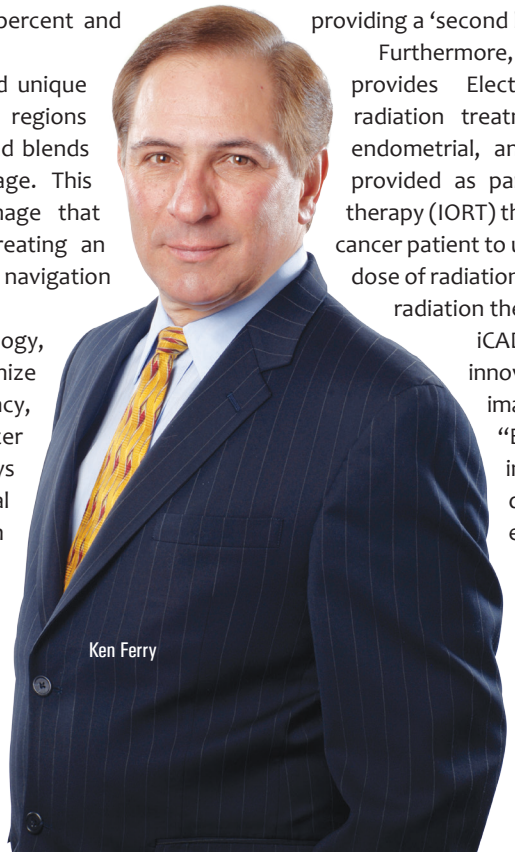
Complementing PowerLook Tomo Detection is iCAD's PowerLook Density Assessment, designed to standardize the assessment and reporting of breast density for FFDM exams, indicative of risk for developing breast cancer. In addition, iCAD's PowerLook Mammo Detection serves as an interpretive cancer detection software for 2D mammography, providing a 'second look' at suspicious areas.


Ken Ferry

Furthermore, Xoft, a subsidiary of iCAD, provides Electronic Brachytherapy (eBx) radiation treatment for early-stage breast, endometrial, and skin cancer. Xoft may be provided as part of interoperative radiation therapy (IORT) that allows an early-stage breast cancer patient to undergo lumpectomy, get their dose of radiation, and forgo weeks of follow-up radiation therapy otherwise required.

iCAD intends to continue to develop innovative solutions to support imaging modalities through AI. "Backed by our expertise and investments over the last half a decade in AI, we believe we can extend our solutions beyond breast health into a number of other areas in the imaging space over the coming years," concludes Ferry, with optimistic determination. HT