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Q&A: Bill Lacy on why radiologist excitement is growing around Fujifilm's AI initiative

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Artificial intelligence (AI) was the center of attention at RSNA 2017 in Chicago, and FUJIFILM Medical Systems U.S.A., Inc. got in on the fun by unveiling its new AI development initiative from its booth at McCormick Place. Bill Lacy, FUJIFILM Medical Systems U.S.A., Inc. vice president of medical informatics, spoke to us after the show about both the history behind the initiative and its bright future.

Bill Lacy

You just introduced your AI initiative to the U.S. market at RSNA 2017 in Chicago. Can you speak a bit about the development of this initiative?

In an increasingly complex healthcare environment with larger imaging datasets and ever growing Protected Health Information (PHI), AI will have the potential to change the practice of medicine. It was clear at RSNA that the applications for AI are limitless and with our long history of innovation, Fujifilm is at the forefront of development to refine this disruptive technology for medical imaging and healthcare informatics.

The program will be based in Raleigh, North Carolina—the global development headquarters for Fujifilm's Synapse portfolio—in collaboration with FUJIFILM Corporation's development team in Tokyo who will provide a wide range of image recognition technologies and expertise. Fujifilm will partner with its strategic customers in the U.S. market to draw upon clinical insights and expertise in the field to bridge AI applications to imaging informatics solutions.

Fujifilm's AI development initiative will harness the power of AI to enhance its imaging and healthcare informatics Synapse® portfolio which includes Synapse PACS, Synapse Cardiovascular, and Synapse VNA among other solutions.

You mentioned PACS just now. Do you think AI technologies will become a part of any other Fujifilm solutions or applications?

The timing of the expansion of the Fujifilm AI initiative in the U.S. market is significant as we recently released our latest innovation—Synapse 5 PACS.

The convergence of AI and server side visualization technology like Synapse 5 PACS is a great example of the potential to realize considerable positive impacts from AI in the near future. We clearly see AI as a potential tool for innovation across our entire Enterprise Imaging solution.

How did attendees at RSNA react to the AI initiative? What kind of feedback did you get at the show?

The response was overwhelmingly positive, especially from the radiologists at the show. I think a lot of that was because we were showing how AI will directly impact and improve the way they interact with PACS and how PACS workflow could be driven in new ways by AI.

This technology will be of great benefit to radiologists We weren't showing that AI will replace their role or replace their functions—we were showing how it will improve their efficiency, how it will cut down on the amount of work radiologists do that pulls them away from the study and away from the patient. I think it was clear to radiologists, after viewing our RSNA exhibit, that our focus is on leveraging the speed of server side technology to bring AI directly into the applications they use every day in the most meaningful ways and fast enough to make a difference in their decisions.

How have you noticed radiologists' perspective on AI change in the last few years? As recently as RSNA 2016, specialists seemed to be more uneasy about the potential of these technologies.

We've seen a definite shift in the last 12 months in that regard. In the past, there was a lot of talk in healthcare about AI taking the place of physicians and how that would happen relatively fast, but there has been little evidence to practically support that is actually happening. What we've seen in the last year is an explosion in prototypes and use cases for AI—making applications physicians use better, So, physicians, including radiologists, have gone from feeling fearful to being excited and wanting to be involved in this technology evolution. They see that this is actually a necessary technology that can take PACS and other applications to the next level. They now see that they need AI and they need it as fast as vendors can bring it to them. It will help them aggregate PHI faster, be more accurate, display more quality, spend more time with the patient, and prioritize their work and time more effectively.

Also, radiologists now see that AI can only truly evolve with their help. We have to "teach" these machine learning engines how to get better and we have to hear from the experts about what the appropriate use cases are and where they want us to go as a vendor.

So there's definitely been a big paradigm shift from fear to wanting to work together. It was really positive to see that at RSNA.

How do you see Fujifilm's relationship with AI, deep learning and machine learning technologies evolving in the next 5-10 years?

Given our history of being an imaging vendor and being innovative in imaging science, and a PACS market leader, that's been our initial entry point with AI. So we're initially introducing AI from an imaging and informatics perspective, but we do have a much broader vision that includes our entire enterprise imaging portfolio.

We want to use machine learning to look at our overall efficiency and optimize all of our applications. There are areas, such as reading protocols for radiologists, that are a great example of how a user might want to customize their system based on what they're looking at and how they've looked at it in the past. How can we automate that process to their preferences? How can we improve departmental workflow based on patterns of use, and provide more meaningful and actionable analytics? All of that is a perfect example of how deep learning can be applied to watching user, system, and departmental patterns

for potential optimizations.

We also want to bring our AI platform into more imaging research. Vendors can apply these image recognition engines to really important research that academic and clinical research settings have been eager to focus on, such as cardiac, neuro, muscle, or bone studies, but have struggled to allocate the resources required for the manual lengthy process of the imaging measurements and data collections. This important research, whether focused on identification or progression of disease states, or generating new PHI or population health analytics, is now becoming more realistic utilizing advancements in AI platforms to automate this type of research, and has the potential to create new value to legacy imaging archives.

The potential of this technology is almost limitless, but vendors need to be focused on their areas of expertise. It's not just about having AI technology that's off to the side, but rather, as we showed at RSNA, it's about putting that technology right in front of the user and making it a part of their work each day. I think the vendors that can bring AI through to the user in a really meaningful way are the ones who will be on the leading edge of AI.