AI in miners' association hospitals

Simply faster to the destination

A common misconception about the use of AI in medicine is that AI comes in with a big bang and workflows will be revolutionized from one moment to the next. In reality, it is rather unremarkable, specific solutions that are currently bringing about the greatest added value. One of these quiet helpers is successfully being used in the miners' association hospital and Buer pediatric clinic in Gelsenkirchen where it simplifies axis measurement for whole-leg images. What is special about this is that the success of the solution depends enormously on its seamless integration into JiveX.

The radiology team headed by Dr. Jörg Stattaus, chief physician of the radiology clinic, prepares around 100 whole-leg images a month, primarily to evaluate varus and valgus malalignments. "Regardless of whether it is anomalies of the femur in children or knee osteoarthritis in adults: X-ray images from the hips to the ankle and subsequent leg axis measurement form the foundation of therapeutic measures for malalignments, which usually require surgery. It is no wonder then that they play a significant role in our everyday work," explained the radiologist.

Automation thanks to deep integration

Measurements are conventionally performed by the radiologist who takes the measurement during diagnostics using the tools in PACS. Experienced diagnosticians need about a half a minute for such a measurement. Doesn't sound like much. However, over a month we have appreciable time savings thanks to the use of IB Lab LAMA from Image Biopsy Lab. The AI solution specializes in the measurement of leg geometry and calculates the required values automatically in the background. When the diagnostician opens the images in PACS, the measurements are already in the images and they only need to be transferred to the finding.

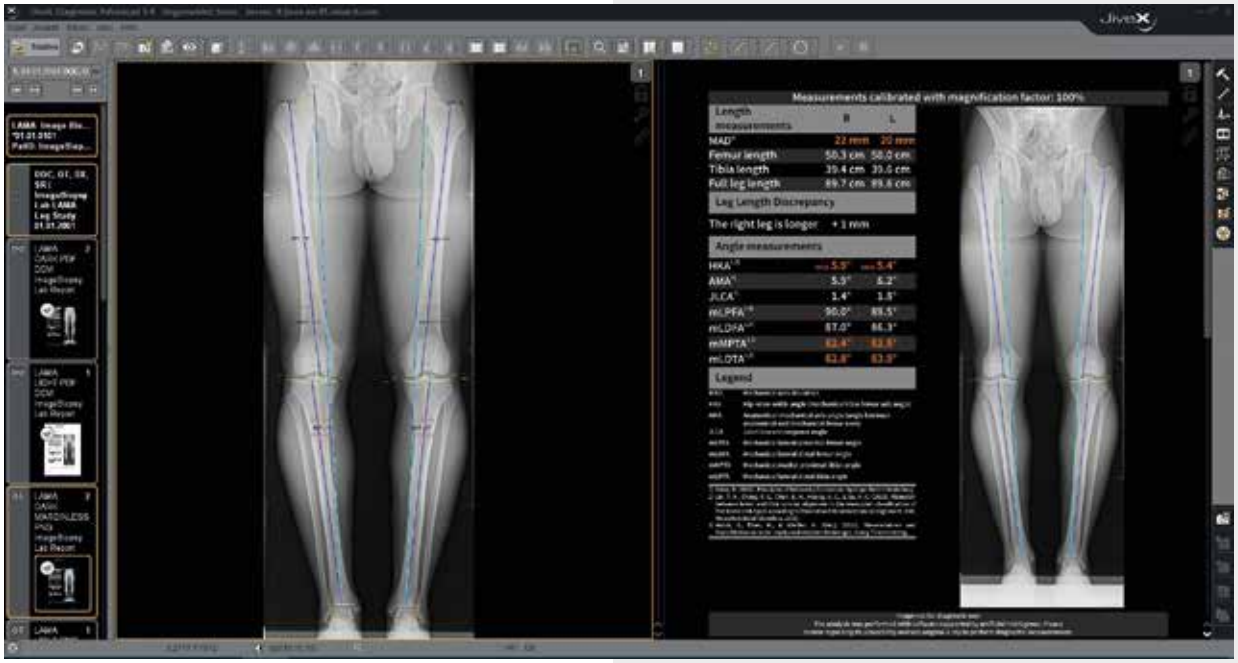
That this process works with such a high degree of automation is not entirely obvious, however. It is rather down to the seamless integration of LAMA into JiveX Enterprise PACS that VISUS has enabled. "In the test phase we had to send the images manually to the AI, then wait for five to ten minutes for the results, and only then could we continue with the finding. Compared to manual measurement, we had no advantage. Only once the images were sent automatically and analyses were generated in the background did we see added value for routine clinical practice," according to the radiologist.

Priv.-Doz. Dr. Jörg Stattaus
Chief physician of the radiology clinic

"A flexible subscription model, such as that offered by the marketplace, is optimal."

Flexible use creates incentives

It is exactly such added value that VISUS would like to achieve with its strategy of relying on selected AI partners. For users to usefully exploit modern AI options in practice requires close cooperation between AI and the PACS. Such cooperation is achie-



The IB Lab LAMA software measures the leg geometry.

ved through the extensive network of connectMT and the local AI marketplace for which VISUS is the technical system operator. For VISUS customers there are several advantages associated with this constellation. For one thing, incorporating the AI has extremely smooth and does not further burden the already overextended resources of IT departments. Importantly, only valid AI solutions find their way into the radiological work space.

And Jörg Stattaus adds, "One barrier to the use of AI solutions that are not part of the software package of major device manufacturers is naturally the costs. Purchases in the five-digit range can only be realized with difficulty. A flexible subscription model, such as that offered by the marketplace, is optimal here because we can make use of AI with transparent and clear monthly costs and without major administrative effort."

In light of the work intensification in radiology, the support provided by the use of AI will be needed more and more to maintain quality and to relieve the burden on radiologists. A good PACS and an intelligent AI strategy form the foundation of this support.

ImageBiopsy Lab

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develops AI-supported software applications that digitalize musculoskeletal diagnostics using X-ray images, enabling fast, quantitative, and standardized diagnoses. IB Lab LAMA supports radiologists and orthopedists in pre- and postoperative measurement and evaluation of leg length and angle.

↗ ***www.imagebiopsy.com***

connectMT

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formerly Westdeutsche Teleradiologieverbund, the West German teleradiology association, and the core project of MedEcon Telemedizin linking about 700 university hospitals, hospitals, radiology and other practices, healthcare centers, and rehab centers, enabling the exchange of up to 100,000 investigations a month. Various use scenarios are served by this project, from consultations, preparations for patient transfers, requests for preliminary images, and an upload portal in which patients can send their investigations to the hospital or practice. There are also solutions for the use of AI services across the shared platform www.med-ki.de.

↗ ***www.med-ki.de***