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Guts of a Human Hand

By Diwash Thapa



Guts of a Human Hand: Old Anatomy Under a New Technology

This is a segmented image of a human hand acquired with a tomosynthesis scanner. Tomosynthesis is a cross-sectional imaging modality widely known for breast imaging, but it also has great sensitivity for fractures. This image highlights the osseous resolution of tomosynthesis evidenced by the clarity of the bone outlines and trabeculae within it. This image was acquired using a novel x-ray technology invented by Drs. Otto Zhou and Jianping Lu in the Department of Physics and Astronomy at the University of North Carolina. The clinical translation of these devices has been led by Dr. Yueh Lee of the Department of Radiology in collaboration with the physics team including Dr. Christy Inscoe.

Diwash Thapa is a fourth-year medical student at the University of North Carolina at Chapel Hill School of Medicine. He received his B.S. in Physics from the University of North Carolina at Chapel Hill. One of his medical school projects was building a prototypical whole body tomosynthesis device called orthogonal tomosynthesis for trauma imaging in resource-poor environments. This device is based on carbon nanotubes (CNT) x-ray sources, the same technology used in the scanner which generated this submission. Diwash's imaging research is published in SPIE Medical Imaging and Physics in Medicine and Biology.

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