# Enabling Real-Time Medical Imaging on Edge Devices: Co-Optimizing Accuracy and Computational Efficiency

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Biography: Yan Pang, Ph.D., serves as an Associate Professor at Guangzhou University after earning his doctoral degree from the University of Colorado, USA. Prior to his present position, he was an instructor at the Metropolitan State University of Denver and the University of Colorado Denver. He also gained industry experience as a Senior Machine Learning Engineer at Moffett AI, a well-known Silicon Valley company. His primary research revolves around computer vision, where he conducts systematic theoretical research and practical applications, particularly in image segmentation, human posture estimation, behavior recognition and analysis, graph neural networks, and model compression. Dr. Pang's significant contributions have been applied practically in diverse sectors such as medicine, agriculture, and security, making a substantial impact in their intelligent evolution

Abstract: Real-time medical imaging on edge devices is increasingly critical for portable medical devices, telemedicine, and autonomous diagnosis. However, deploying on-device models for such tasks presents significant challenges in balancing high accuracy with computational efficiency, particularly on resource-constrained platforms. This presentation explores several approaches aimed at co-optimizing these two factors, including lightweight neural networks, hardware-aware optimizations, and adaptive processing strategies. These approaches ensure high-quality image analysis while minimizing computational overhead, making them suitable for deployment on portable medical devices with limited resources. The presentation will also address key issues such as limited memory, processing power, and energy consumption, highlighting solutions that enable efficient and accurate real-time medical imaging for mobile healthcare and remote diagnostics.