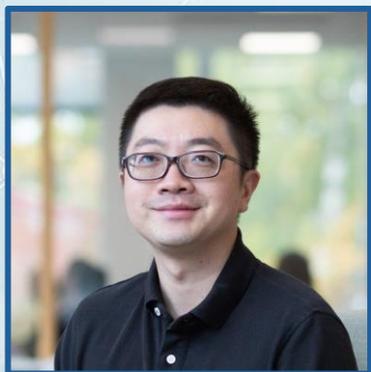


Scaling Medical AI Without Scaling Cost in the Era of Generative AI



Invited Speaker

Jiancheng Yang

ELLIS Institute Finland

Aalto University

Date: Mar 25, 2026 (Wed)

Time: 16:00 (HKT)

Zoom Meeting: 801 137 0362

Biography

Jiancheng Yang is a Principal Investigator at the ELLIS Institute Finland and Assistant Professor at Aalto University. He received his Bachelor's and PhD degrees from Shanghai Jiao Tong University, was a visiting fellow at Harvard, and completed postdoctoral training at EPFL. His research advances AI for health, with a focus on spatial intelligence, generative AI, and multimodal deep learning. He has authored 60+ publications and is recognized for developing MedMNIST. He is a Forbes 30 Under 30 honoree and a recipient of the WAIC Yunfan Award.

Abstract

The next step for medical AI is scaling. However, scaling medical AI faces intrinsic challenges: medical data are often limited, complex, and highly heterogeneous, while many existing AI techniques are not yet designed to fully exploit such data. This talk presents contributions unified by a common goal: building scalable medical AI through maximal reuse. First, I introduce LeFusion, a constrained generative framework for medical data synthesis (ICLR 2025 Spotlight), which provides guarantees on synthetic data quality and allows downstream models to better exploit underutilized information in limited real datasets. Second, I describe DiffAtlas, a new perspective on multimodal medical data (MICCAI 2025 Spotlight), where traditional input-output medical image segmentation is reformulated as an unconditional multimodal diffusion model guided only at inference time. Finally, I introduce PlaneCycle, a training-free, adapter-free operator that lifts arbitrary 2D foundation models into 3D by cyclically distributing spatial aggregation across orthogonal planes, adding no parameters while preserving pretrained inductive biases. Together, these works suggest a broader principle: medical AI can scale without scaling cost.