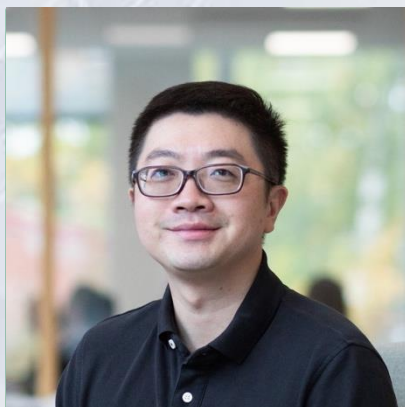


Trustworthy Machine Learning and Reasoning Group

**Dr. Jiancheng (JC) Yang**Assistant Professor,
Aalto UniversityPrincipal Investigator ,
ELLIS Institute Finland**Date: 8 October 2026 (Thursday)****Time: 15:00 – 17:00 (HKT, UTC+8)****Meeting: <https://hkbu.zoom.us/j/6603117755>****Scaling Medical AI through Reuse: Towards Virtual Patients****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, for model reuse, I introduce PlaneCycle (MICCAI 2026), 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. Second, for data reuse, I describe LeFusion (ICLR 2025 Spotlight), a constrained generative framework for medical data synthesis that provides guarantees on synthetic data quality and allows downstream models to better exploit underutilized information in limited real datasets. Finally, for architecture reuse, I present DiffAtlas (MICCAI 2025 Spotlight), a new perspective on multimodal medical data where traditional input–output medical image segmentation is reformulated as an unconditional multimodal diffusion model guided only at inference time. Together, these works suggest a broader principle: medical AI can scale without scaling cost. I close with our emerging vision of virtual patients, pursued as part of a Finnish national health moonshot project.

**BIOGRAPHY**

Jiancheng (JC) 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 through generative and agentic AI, multimodal learning, and world models, with the goal of building virtual patients. JC has authored 80+ publications and is recognized for developing MedMNIST. He is a Forbes 30 Under 30 honoree and a recipient of the WAIC Yunfan Award. Homepage: <https://jiancheng-yang.com/>

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