Carnegie Mellon Graphics Colloquium

Thursday, **15 February 2024**
5:00-6:00pm
Rashid Auditorium, **Gates Hillman 4401**

Building Large Models for Human Motion

C. Karen Liu
Professor, Computer Science Department, Stanford University

This talk explores the creation of generative models for human motion, akin to ChatGPT for text, with applications in animation, robotics, AR/VR, and healthcare. These models aim to synthesize realistic human motions and can be conditioned on inputs like audio, video, or medical data. The challenge lies in acquiring a vast, diverse dataset of 3D human motion due to current data collection limitations. The presentation will cover innovations in motion capture technology to gather extensive human motion data across different activities and environments. It will also discuss the development of advanced generative models for human motion, which are notable for their high-quality outputs, adaptability to various inputs, and precise control.

Bio: C. Karen Liu is a professor in the Computer Science Department at Stanford University. Liu's research interests are in computer graphics and robotics, including physics-based animation, character animation, optimal control, reinforcement learning, and computational biomechanics. She developed computational approaches to modeling realistic and natural human movements, learning complex control policies for humanoids and assistive robots, and advancing fundamental numerical simulation and optimal control algorithms. The algorithms and software developed in her lab have fostered interdisciplinary collaboration with researchers in robotics, computer graphics, mechanical engineering, biomechanics, neuroscience, and biology. Liu received an NSF CAREER Award, an Alfred P. Sloan Fellowship, the ACM SIGGRAPH Significant New Researcher Award, and was named Young Innovators Under 35 by Technology Review. In 2021, Liu was inducted to ACM SIGGRAPH Academy.

Web Page: https://tml.stanford.edu/

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