## Shuicheng Yan

**Affiliation:** Skywork AI, 2 Science Park Drive, #01-08 Ascent, Singapore 118222

**Google Scholar:** https://scholar.google.com/citations?user=DNuiPHwAAAAJ

**DBLP:** https://dblp.org/pid/y/ShuichengYan.html

### Biography:

Prof. Shuicheng Yan is currently managing director of Kunlun 2050 Research and Co-CEO of Skywork AI, and former Group Chief Scientist of Sea Group.

Prof. Yan is a Fellow of Singapore's Academy of Engineering, AAAI, ACM, IEEE, and IAPR. His research areas include computer vision, machine learning, and multimedia analysis. Till now, Prof Yan has published over 800 papers at top international journals and conferences, with an H-index of 140+. He has also been named among the annual World's Highly Cited Researchers eight times.

Prof. Yan's team received ten-time winners or honorable-mention prizes at two core competitions, Pascal VOC and ImageNet (ILSVRC), deemed the "World Cup" in the computer vision community. Besides, his team won more than ten best papers and best student paper awards, particularly a grand slam at the ACM Multimedia, the top-tiered conference in multimedia, including the Best Paper Awards thrice, Best Student Paper Awards twice, and Best Demo Award once.

**Talk Title:** Foundations of Foundation Models

**Abstract:** In this presentation, I divide the research on foundation models into three aspects, corresponding to three types of errors: approximation error, estimation error, and optimization error. For approximation error, I will share two recent advancements in model architecture, MoE++ and MoH. For optimization error, I will present our new optimizer called Adan and discuss how we optimize individual layers based on samples with varying levels of difficulty. Additionally, I will introduce two of our new products, SkyMusic and SkyReels.