



Department of Quantitative Health Sciences

Sponsored by The Bioinformatics Core at University of Hawaii JABSOM

Special Guest Speaker

Building Foundation Models for Single-Cell Omics and Imaging



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If you have any questions, please contact

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This talk delves into the innovative utilization of generative AI in propelling biomedical research forward. By harnessing single-cell sequencing data, we developed scGPT, a foundational model that extracts biological insights from an extensive dataset of over 33 million cells. Analogous to how words form text, genes define cells, effectively bridging the technological and biological realms. The strategic application of scGPT via transfer learning significantly boosts its efficacy in diverse applications such as cell-type annotation, multi-batch integration, and gene network inference. Additionally, the talk will spotlight MedSAM, a state-of-the-art segmentation foundational model. Designed for universal application, MedSAM excels across various medical imaging tasks and modalities. It showcased unprecedented advancements in 30 segmentation tasks, outperforming existing models considerably. Notably, MedSAM possesses the unique ability for zero-shot and few-shot segmentation, enabling it to identify previously unseen tumor types and swiftly adapt to novel imaging modalities. Collectively, these breakthroughs emphasize the importance of developing versatile and efficient foundational models. These models are poised to address the expanding needs of imaging and omics data, thus driving continuous innovation in biomedical analysis.

Thursday, April 4th, 2024 12:00 pm- 1:00 pm HST

Zoom: <https://hawaii.zoom.us/j/94372063003> Meeting ID: 943 7206 3003 Passcode: 689143

