Stanford

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Bio

BIO

Since Fall 2021, I am a joint postdoctoral scholar at Stanford University and Genentech Research and Early Development, hosted by Jonathan Pritchard and Aviv Regev. I recently obtained my PhD degree from the department of Electrical Engineering and Computer Sciences at UC Berkeley, advised by Mike Jordan & Nir Yosef. My research interests lie at the intersection of statistics, computation and modeling with a focus on biological applications.

A significant part of my research is driven by building more statistically accurate and faster machine learning software for analyzing single-cell omics data. I developed single-cell Variational Inference (scVI), a flexible model and a scalable inference method for comprehensive analysis of single-cell transcriptomes. I co-developed scvi-tools, an open-source software suite for fully-probabilistic modeling of single-cell multi-omics data. You may learn more about these topics in my guest lecture of the Deep Learning in the Life Sciences class at MIT.

More generally, I am interested in the broader area of ML + Science. Deep generative models provide an appealing and flexible paradigm for learning distributions, but quite some work is needed to fully exploit them as part of a scientific hypothesis testing pipeline (e.g., causality, interpretability, disentanglement, decision-making).

Previously, I worked on counterfactual inference and offline policy learning methods in collaboration with technology companies. In 2018, I visited Le Song at Ant Financial in Hangzhou. In 2019, I visited Inderjit Dhillon at Amazon in Berkeley. Before graduate school, I obtained a MSc in applied mathematics from Ecole polytechnique, Palaiseau in 2016. Additionally, I worked as an intern at the Harvard Medical School with Allon Klein in 2016. I was born and grew up in Bedarieux, France.