1163-03-1187   **Haoyang Cao** and **Xin Guo*** (`xinguo@berkeley.edu`), CA. *Convergence of GANs training: an SDE approach.*

Generative Adversarial Networks (GANs) have celebrated great empirical success, especially in image generation and processing. There is a recent surge of interest in GANs to financial applications, including asset pricing, portfolio optimization, and multi-agent market simulation. In this talk, we will discuss some recent progress in mathematical analysis of GANs: approximating GANs training in the form of SDEs. This SDEs approximation provides, for the first time, an analytical tool to understand some well-recognized issues in the machine learning community for GANs training. (Received September 15, 2020)