

YONSEI Math-CSE Colloquium

Applications of deep learning in Financial mathematics

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In this talk, I will introduce several deep learning approaches to solving financial mathematics problems from several perspectives of deep learning; function approximation, nonlinear regression, and generative neural networks. Utilizing neural networks as a function approximator, one can explicitly locate free boundaries of free boundary PDE problems; as a nonlinear regressor, one can calibrate model parameters and forecast future values; and as a generative model, one can generate sample paths of stochastic processes and their associated processes and estimate option prices and Greeks.

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