



Training Proposal

Mark To Future proxies with Machine Learning

Principal tasks/responsibilities for this position.

- 1. Theoretical work (based on academic research).
- 2. Implementation & testing.
- 3. Reporting on numerical results / Operational conclusions.

Keywords: CCR, Machine learning

Environment Applied Research Group, CCR Team.

External Job Description :

The measure of capital requirements, and especially those induced by counterparty risk, has become a paramount aspect of financial markets activities.

In practice, this measure entails the computation of large number of so-called mark-to-futures, that is, the evaluation of the price of financial instruments (mostly derivatives) at future dates under different market scenarios.

The full reevaluation approach seems natural but proves rarely applicable – cost-effectiveness and computational feasibility are highly uncertain.

This therefore requires the use of alternative approaches, and Machine Learning techniques are certainly of the most disruptive and the most appealing amongst them.

Training a proxy of the pricing function should help building a numerically efficient and accurate proxy, and provide an estimation of counterparty risk metrics as fast as a standard price evaluation.

The internship aims at exploring such paths – without any preconception of the best algorithms to engage.

Duration : 6 months

Starting Date : Any

Place : Paris, La Defense

Education : Engineering school. Specific degree in Applied Mathematics and Computing greatly appreciated.

Required Skills :

- Analytical and interpersonal communication skills
- Stochastic calculus, probability theory
- C#, Python
- Interest on financial modeling, financial products

Reward : Societe Generale Criteria

Contact : ahmed.tadlaoui-habibi@sgcib.com
yassine.oketokoun@sgcib.com