MA4198 PROJECT PROPOSAL (PROJECT CUM SEMINAR GROUP)

SUPERVISOR'S INFO

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PROJECT ID: PS2510-03

TITLE

Monte Carlo methods and their applications to finance

BRIEF DESCRIPTION OF PROJECT

The project explores Monte Carlo methods and their applications to financial engineering. It begins with the fundamentals of the Monte Carlo method, then introduces essential variance reduction techniques including antithetical sampling, control variates, and importance sampling. The project emphasizes practical implementations. By the end of the project, the participants will have a solid understanding of Monte Carlo techniques will be equipped to apply them to solve real-world problems in finance and beyond.

EXPECTATION/S

Participants are expected to engage actively with the reading material, complete hands-on coding exercises.

PREREQUISITE/S (at level 3000 or below, with at most one course at level 3000)

Coding skills in any preferred programming language

READING REFERENCE/S

Monte Carlo simulation with applications to finance, Hui Wang, CRC Press