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|  | **EPFL Master Project** | |  | |  | |
| Job Title |  | Master Project |  |  | |  |
| Department |  | Project Supervisor |  |  | |  |
| Supervisor |  | Location | |  | | |
| Start date |  | End date | |  | | |
| The objective of a Master Project is to carry out a project in a professional environment. This gives students the opportunity to put into practice the methodological and technical competences acquired during their studies and to show their ability to work independently. The Master Project offers students professional work experience and the possibility to familiarize themselves with company processes.  **Project’s description:**  **Asset optimisation: theoretical optimal  vs realised behavior**  Looking at a series of individual assets and asset types (power stations, gas storage sites, pipelines etc), create an optimisation framework to model the optimal economic behaviour of these assets  Compare these results with realised behavior.  **Intern’s role in this project:**  Build a Generic Monte Carlo framework (Longstaff-Schwartz MC, Least-Square MC, etc)  It's designed to price American options. Use this framework to model gas storage stochastic optimization and forecast future behavior of these assets  Traditional strategies employed to optimise assets will include but not be limited to the following:   * Static intrinsic * Static Intrinsic and Extrinsic * Rolling-Intrinsic * Spot Optimization * Delta-Hedging   **Intern’s objectives in this project:**  Understand the lifecycle of data  Complete the monte carlo framework  Simulate the optimal economic behavior based on at least one of the above 5 stated strategies  Compare and explain the potential discrepancies between the optimal behavior and realised behavior  Suggest further work  Complete Master’s thesis  **Timeline over the 6 months internship:**   * Month 1 **=> Complete reading provided.  Get up to speed with programming and lay the ground work for the project.  Obtain Singaporean Visa Complete introduction to the Master’s Thesis** * Month 2 **=> Make a trip to Singapore Set up framework Understand lifecycle of data Understand the various asset optimisation behaviors** * Month 3 **=> Complete framework Complete db set up and lifecycle of data Load data into DB** * Month 4 **=> Research on a particular asset of interest from our DB Obtain and update static data on the asset Complete one asset optimisation strategy on that asset Discover discrepancies between optimal and realised behaviors** * Month 5 **=> Complete second asset optimization either on another asset or another type of asset write up thesis and presentation** * Month 6 **=>** Presentation to the Group CEO, Marco Dunand | | | | | | |