Ali SIDIBE

albrsidibe@gmail.com

+44 73 79 38 21 57

NW1 6TL, London

linkedin.com/in/alibsidibe

Github: abskalana

Quantitative Analyst

Interest Rate – Fixed income - Derivatives
Python - VBA - Java
5 years in investment banking

Summary

- Strong background in Mathematics (Stochastic calculus, optimization algorithm, problem solving).
- Strong background in financial assets (derivatives, fixed income, exotics, and structured products)
- Experience with building advanced hedging and pricing strategy on derivatives contracts
- Good experiences interest rate models and curve building (stripping, bootstrapping, calibration)
- Proficient programming skills in Python, Java, VBA, Java, and SQL and programming object oriented
- Expert level on numerical method (monte Carlo, finite difference methods)
- Great background on market risk analysis and computation (Var, Expect Shortfall)
- Great capacity on anomalies investigation and issue solving in complex environment.
- Knowledge on ESG and Islamic financial products structuring
- Good written, explanation, reporting and interpersonal relations skill.

Work experience

March 2023 – July 2024 (Contract) : Quant Research, Front Office, Credit Agricole CACIB, Paris France

- Interest rate curves building using market instruments
- Setup a trade compression process
- Investigation of anomalies, stability and consistency on pricing and interest rate curve model
- Building structured product, pricing derivatives and exotics assets risk with monte-carlo
- Prudential valuation reporting.
- Language tools: python and VBA
- Financial products: structured product, bonds, swaps, futures, exotic options.
- Tools : Blomberg, Excel, MATLAB.

Jan 2020 – Mar. 2023 (Contract) : Quant, Front Office, BNP Paribas, Paris France

- Create multiple hedging strategies for interest rate books using linear combination of interest rate swaps.
- Update and improve existing risk pricing models following the switch from EONIA to ESTER rate curve.
- Interest rate curves building using market instruments (bootstrapping)
- Implementation of Libor fallback strategies.
- Developing application in Java to monitor in real-time risk indicators (pnl explained, pnl, Greeks…)
- Analysis reporting top management.
- Investigation of anomalies, stability and consistency on pricing and interest rate curve model
- Structuring and pricing derivatives and exotics assets risk.
- Risk measure test, stress test and back-testing
- Daily communication with trading team
- Developing DLL pricing library in C++ to communicate with Excel / VBA
- Language tools: python, VBA, Java
- Trading Risk monitoring tools (Delta, Gamma, Vanna, Rho, Vega…)
- Financial products: equity, liquidity bonds, swaps, futures, forwards, strips, options.
- Tools: Calypso, Murex, Excel, MATLAB, GitHub, Bloomberg and other internal applications.

April 2019 – Nov. 2019 (Internship) : Assistant Portfolio Manager, Aviva Investors, Paris France

- Building a strategy of re-allocation of bond short term cash flow
- Quantitative method to compute optimal size of order following new issue.
- Introduce the score ESG in Risk measure.
- Investment documentation reporting
- Bond Risk hedging risk, liquidity risk, duration, sensibility
- Econometrics analysis to show the impacts score ESG on the risk of portfolio of the algorithm.
- Financial products: bonds, convertible bond, term contracts and derivatives on bond
- Tools: Bloomberg, Aladdin, VBA, python and excel.

0ct. 2019 – Dec 2024 (Part time) : Teacher Assistant, Numerical method applied in finance, University Sorbonne

- Course title: Numerical method applied in finance.
- Duration : 62 hours by year (4h each Saturday from September to December)
- Bond pricing and structure terms rates building (stripping, bootstrapping)
- Discretize interest rate model (Hull White, Ho & Lee, HJM) with finite method.
- Implementation with python, VBA, and C++
- Interest rate model calibration using python and VBA.

Feb 2012 - Sep 2018 (Permanent): Software Engineer, Via Michelin, Paris

- Provide tools developed in Java for optimization of road costs and traffic management decisions,
- Implementation of assisted guidance algorithms.
- Develop API rest in java for webservice.
- Evaluating test and automation processes and dependencies management.
- Project management and marketing data reporting.
- Scrum master and lead of continue integration
- Technical tools: Java, SQL, Python, MATLAB, GitHub, Excel.

Research projects University of Pantheon Sorbonne

- **Term structure models**: applied trinomial tree on Hull-White one-factor model and LIBOR market model (LMM) to price and calibrate a range of interest rate products such as European swaption, multi-look trigger swap, caption, Bermudan swaption, constant maturity swap (CMS), and a real world CMS derivative; results show that the LMM in general leads to better estimation of derivative prices than the Hull-White one-factor model ((https://researchgate.net/profile/Ali_Sidibe/publications)

- **Impact of ESG on corporate bond liquidity** : Using bond issue data provided by MSCI, empirically analyze the impact of the ESG score on bond liquidity, and split the effect of each component of ESG, using econometrics tools and python ((https://researchgate.net/profile/Ali_Sidibe/publications)

- **Pricing with finite method**: Discretize the black-school model with finite difference methods and implemented in python (https://researchgate.net/profile/Ali_Sidibe/publications)

- Market Risk: Comparison of different method of computation of VaR and ES (monte-carlo, parametric, historical)

Educations

- **Sept 2019: Master 2 Poncet in Quantitative Finance and Risk Management, Panthéon Sorbonne, Paris**
  - Term structure models : Applied trinomial tree on Hull-White one-factor model to price and calibrate a range of interest rate products such as European swaption,
  - Impact of ESG on corporate bond liquidity : Using bonds issue data provided by MSCI, empirically analyze the impact of the ESG score on bond liquidity, and split the effect of each component of ESG, using econometrics tools and python.
  - Pricing with finite method: Discretize the black-school model with finite difference methods and
  - Market Risk: Comparison of different method of computation of VaR and ES.
  - Stochastic calculus, numerical method, market risk, prudential

- Exotics options pricing, product structuration, market risk, team working

- **Oct. 2010: Engineering degree, Computer, Ecole National de Sciences, Tanger, Morocco**
  - Java, Python, C++, R
  - MySQL, SQL, Excel, Microsoft Access
  - Web scrapping (html, Django, python)
  - GitHub, Anaconda, Eclipse

- **Jul. 2007: Bac + 3 in Applied Mathematics, University Cadi Ayyad, Marrakech, Morocco**

- **Continue education**

  - August 2024: Coursera Module Interest Rate Models by Ecole Polytechnique Laussane
  - July 2024 : CFA preparation (on going)
  - Sept. 2024 : Islamic Financial, Financia Business School, Paris
  - Sept. 2020 : Sustainability Certificate, Cambridge University and Bloomberg certificate
  - Oct. 2019 : Specialization in portfolio quantitative Analysis, Rice University (Coursera)
  - Sept. 2019 : Bloomberg certificate
  - Oct. 2014 : Scrum Master

Hobbies

- Language: English and French
- Computer science tools: Python, Matlab, VBA, Java, SQL, Excel (advanced), MySQL, Oracle, GitHub
- Financial tools : Excel, Aladdin, and Bloomberg, Calypsco, Murex
- Sport: Taekwondo, football and running.
- Financial risk : Default Risk, Credit Risk, Counterparty Risk, Market Risk and Liquidity Risk
- Financial products : Equity, derivatives, exotics, structured products, bonds, commodity, Crypto
- Sustainability : Impact investing, Islamic finance and ESG.