

SARAFI IBRAHEEM, PH.D

QUANTITATIVE ANALYST

Accomplished professional with a history of success and experience in mathematics, computer science, engineering, business, and finance. Key skills include:

Forecasting and Modeling – Data Analysis – Strategic Planning – Research and Analysis

EXPERIENCE

Mizuho Securities USA, New York, NY

5/2005 - 9/2019

Director, Quantitative Strategies

Developed and implemented pricing and hedging tools for MSUSA in support of proprietary trading, options and exotic products, market credit risk management, cash liquidity analysis, trading and treasury market data analytics, proprietary interest rate models for structured products, and overall support and enhancement of the trading infrastructure.

- Supervised the CRISIL Global Research Analytics' team in validating and documenting the IR derivative models in Murex in accordance with the SR 11-7 standard.
- Developed real-time PCA infrastructure that correctly predict real time swap quotes on SEF for illiquid points on the yield curve by swap trading desks and is used to construct efficient and cost-effective hedge portfolio for clients' positions held by option trading desks.
- Headed several initiatives in Structured Finance products such as TARN, Range Accrual, Cross Currency Bermudan, Inverse Floater etc. using C & Tk/Tcl.
- Developed Libor Market Model to complement current Lattice model for valuing Interest Rate products. Oversaw the implementation and development of an efficient Monte Carlo simulation infrastructure using C.
- Introduced CDS/CDO's as a new product initiative that currently generates revenue of more than 10 million using Excel/VBA.
- Supported Counterparty Credit Risk group in developing analytics for monitoring exposures to exotic IR products.
- Interfaced with Traders, Risk Managers, IT, Credit, and Treasury personnel.

Goldman and Sachs, New York, NY

7/1998 – 5/2005

Asset Management - Fixed Income

Proposed enhancement to Swap Trading strategy, and implemented pricing techniques for Credit Default using Java

- Proposed development reduced operation cost and increase throughput for revenue three-fold.
- Managed and support existing swap analysis, booking, settlement, confirmation and gain/loss computation.
- Developed, modified, tested, optimized Futures trading models and strategies. Enhanced group Time Series libraries with scale, average, decay, etc. operators using C++, CORBA.
- Provided statistical analysis and analytical support to senior management, traders and middle office to solve financial problems related to trading portfolios. Good familiarity with probability distribution, volatility, transaction/slippage cost and correlation estimation for future products
- Numerically estimated the Vasicek parameters using the Kalman Filter methodology in group's relative strategy model. Investigated extension to Heath-Jarrow-Morton models using S-PLUS.
- Reduced re-balancing time and enabled group to manage more portfolios, thus resulting in higher managed revenue per headcount

- Identified potential problems with sales commission and Profit/Loss reporting and made suggestions for improvements that increased revenue stream from cross selling of about \$500 mn.
- Delivered data to upper management improves reporting of cost vs. revenue of salespeople using Perl.

ADDITIONAL RELEVANT EXPERIENCE

Penn State University/ Lomic Inc., University Park, PA
NASA Lewis Research Center / Old Dominion University, Norfolk, VA
Shell Petroleum Company, Lagos, Nigeria

EDUCATION

Master of Science (MS), Computational Finance, Carnegie Mellon University, Pittsburgh, PA
Post-Doctoral Fellow, Petroleum Engineering and Natural Gas, Penn. State University
Doctor of Philosophy (Ph.D.), Mechanical Engineering, Old Dominion University
Master of Science (MS), Mechanical Engineering, University of Ibadan, Nigeria
Bachelor of Science (BS), Mechanical Engineering, University of Ibadan, Nigeria

Chartered Financial Analyst (CFA) program, Level I Completed

Technical Skills

Python, R, C/C++, Java, Web Technologies, SQL, Perl, Delphi, Sybase, FORTRAN, Bloomberg,
DataStream, FAME (IBES), MSCI, Russell

PUBLICATIONS

Co-author of the book titled, "Resources Management Using Computers". Author/co-author of nine other various technical reports and of eleven Journals

COMMUNITY LEADERSHIP

Organized "The Cure for social Ills," university wide lecture series as President of
Old Dominion University student organization
President of the Association of Mechanical Engineering Students and Chancellor of Exchequer of the
Embassy Club at the University of Ibadan, Nigeria