

**Biresh Basak**

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* *Assistant Professor,* Computer Science & Engineering- teaching UG students, Quantitative research analyst, software architect and developer
* Working under a Data Science research paper related to Machine Learning
* 15+ years of experience in investment banking industry and software development

**Technical skills**

* Conceptual and operational knowledge of FI instruments, FX Derivatives and Interest Rate products including swaps, repos, futures and options
* Risk Management - Stress Testing, Scenario Analysis, Linear & Non-linear regression, Monte-Carlo simulation
* Software Development in Java, C++, JavaScript, Python, MatLab, PHP
* Good Experience of MS Excel, VBA scripting, MS Access and plugins
* Database Management Systems, SQL, Servlets, Web Services, JSON, AJAX
* MVC, GUI design, ASP.Net, Design patterns

**Work Experience**

* **Assistant Professor of Computer Science (Techno India University, Kolkata)**  Sep 2019 - current

Teaching UG engineering students: OOP (C++, Java, Python, Javascript), Web Technology, Data Structures & Algorithms, Computational Statistics, Data Science

* **Computer Science & IT Instructor (Treamis World School, Bangalore)**  June 2019 - Aug 2019

Teaching students of Standard 10th, 11th and 12th (under CBSE, India)

Subjects : Algorithms, Complexities, Data Structures, RDBMS, Networking

* **Bank of America Merrill Lynch (Research Analyst, Credit Risk Management, NY)**  2007 - 2014

A Quantitative Analyst and Software Developer for Counterparty Credit and Capital Risk, primarily doing credit analysis of Fixed Income and Derivative securities using various mathematical models

* Credit Risk models related to financial instruments, like Yield Curves, indices, exchange rates and customized securities for clients
* Worked on implementing scenario generation models for credit spreads, interest rates and default probabilities
* Developing analytics for pricing Mortgage Backed and Asset Backed securities, Credit Default Swaps, Interest Rate Swaps and more for mid-cap and large-cap clients

**Roles and Responsibilities:**

* Research & implementation of Quantitative models using various methods for valuation and risk management
* Architecture and Development of the UVO (User Valuation Override) methodology – for exotic securities
* Identifying and Stochastic modeling of Market Risk factors
  + Interest Rates, Foreign Exchange, Credit Spread, PSA, Option Adjusted Spread (for Mortgage Backed Securities)
  + Time Series Analysis, PCA decomposition, Regression Analysis
* Tools & Software:- Java, JavaScript and C++, Python, Monte-Carlo Simulation, Risk Factor Sensitivity
* **Salomon Smith Barney Inc, Citigroup (VP, Research Analysis, Yield Book, NY )**  2000 - 2007
* Prime developer of the Front-End of ‘Yield Book Calculator’ – one of the main products of www.Yieldbook.com ( now part of FTSE Russell, London) using Java Swing technology
* Developer of the YB-Excel-AddIn using the SOAP paradigm on XML-based design for lightweight clients
* Testing and maintenance of analytics for Mortgage and Asset Backed securities, Interest Rate swaps, futures, derivatives using standard and non-standard methods.
* Developed the web infrastructure of Yield Book XML API (for handling SOAP protocol); helped the group launch Fixed Income analytics services along with Market Data Support. Worked with tech support and trading desk in close coordination with large-cap clients
* Tools & Software :- Java, J2EE, Swing, C++, Servlets, XML API, MS Access/Excel Plugin, SQL
* **Federal Express ( Memphis, TN )** Mar 1999 - Dec 1999
* Designed and developed client side software application for Aircraft Maintenance and Dispatching System (AMADS) tracking aircrafts’ refueling status, maintenance schedules and dispatch assignments on UNIX
* AMADS went on successfully to get customized for running on desktops at FedEx's central command at Memphis, Tennessee and thereafter also to run on handheld tablets for ground officers
* **D. E. Shaw India Private Ltd ( Hyderabad, India )**  1997 - 1999
* Developed a real-time data display tool called ‘Market Maker’ for displaying data from Reuters Select Feed to be used by traders at D E Shaw & Co. New York
* The project successfully helped retire their old trading desk readers called Reuters Select Feed reader.
* **Frontier Information Technologies Ltd ( Hyderabad, India )** 1996 – 1997
* Developed desktop software called “My Briefcase” for PCs and notebooks; helping Business travelers manage documents between their corporate network, PCs and their notebooks.
* The software helped migrate their files to a revision based platform

**Education**

* B. Tech (Comp Sc & Engg), IIT Bombay – 1996
* MS Mathematics in Finance (NYU) – 2010

(Completed all coursework with credits but thesis incomplete due to poor health condition)