

Career Focus

To achieve greater heights for the organization with my hard work and dedication. I would like to be a part of an organization that encourages research, promotes thinking, develops personality and provides an optimum milieu for personal as well as growth and development of future generations.

Areas of Expertise

SAS	Shiny (R Studio)
Regression Analysis	MySQL
Cluster Analysis	STATISTICA
Multivariate Analysis	R (Modeling, Predictive Analysis, Decision Trees, Random Forest etc.)
Business Analysis	Tableau Desktop

Career Accomplishments

ICRA ONLINE LTD (ICRA) , Kolkata, India
Role: Senior Analyst

November 2015-present

Project Name	Objective	Analysis done	Software used
Portfolio Optimization	<ul style="list-style-type: none"> An analytical tool for MF distributors and investors to assist and enhance the management of portfolios based on investors' risk profile; Runs an algorithm and allocates the investment across securities and assign weightage 	<ul style="list-style-type: none"> Exploratory data analysis i.e. data cleansing, data transformation, test for outliers, data aggregation Applied Markowitz Model; Mean-Variance Optimization and Efficient Frontier technique Model Validation is performed by Back-testing, Sample-testing and performance validation 	R, R Studio, Tableau Desktop
Equity Attribution	<ul style="list-style-type: none"> An analytical tool aimed at asset managers and fund houses A method of performance evaluation to analyze the asset manager's potential to make proper investment decisions To explain why an Equity portfolio's performance is different from its benchmark 	<ul style="list-style-type: none"> Brinson Model is used to decompose the active return into Allocation Effect, Selection Effect and Interaction Effect Root cause analysis for strategic planning of Active Return using analytical techniques Peer Analysis is done by selecting top 3-5 funds in the same category and compare constituent fund with the peer group 	R, R Studio, R Shiny, Tableau Desktop
Predictive Analytics in Cross-sell and Up-sell of MF products	<ul style="list-style-type: none"> Develop a tool which recommends additional new schemes to investors based on their buying behaviour to generate maximum revenue growth. A mutual fund investor has bought a scheme X. Probability that he will buy another scheme Y (Cross-sell) or more of scheme X (Up-sell), is predicted by Recommendation Analytics. 	<ul style="list-style-type: none"> A predictive model or algorithm is developed for identifying the next best MF product to an investor Data processing and missing value replacement, Outlier treatment Descriptive analysis of the investor data Cluster analysis is carried out to group the investors based on their transaction behaviour Associate Rule mining is carried out within each cluster to find the association between the data observations through a measure called "Lift" using Apriori Algorithm 	R, R Studio, Tableau Desktop

Credit Risk Scorecard	<ul style="list-style-type: none"> To deliver supervisor-validated internal rating systems (as per bank's framework) which will generate reports on a regular basis (quarterly/half yearly). Credit risk model development, validation and calibration for the client adhering to Basel II standards 	<ul style="list-style-type: none"> Ordered Logistic Regression is used to predict credit ratings Define and create sample Select and define financial parameters/drivers Univariate analysis (Investigate drivers) To ensure the appropriateness of the model parameters or candidate factors. Multivariate analysis (Build models) Measure and compare the power and stability of each resulting model (Accuracy Ratio) Calibration and scorecard development 	R, R Studio, MS Excel
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Other Responsibilities:

- Work closely with management to prioritize business and information needs
- Statistical Surveys analyzed in R
- Direct communication with the client for business requirements gathering and also delivering end product with detailed statistical analysis
- Locate and define new process opportunities
- Expertise in Data modeling, Data mining, Machine learning and Segmentation
- Knowledge of statistics and experience using statistical packages for analyzing large datasets
- Text Analysis and keywords generation in R and R Studio
- Development of web based applications in R Shiny
- Distributor performance matrix done by Regression Analysis and Predictive Analytics in R
- Ability to take crucial decisions in times of pressure

vCreatek Consultancy Services Ltd., Kolkata, India

April 2015-October 2015

Role: Senior Analyst

Project Details: The project is named as "**LME (London Metal Exchange) WEB APP**". Our objective is to build a Web Application which will be able to analyze business or finance (Commodity Market) data in terms of rise and fall of the market(What-if Analysis) and helps user to take necessary financial and business decisions. Also this application will update database automatically on User Input.

Roles and responsibilities:

- Analyzing market oriented activities like- trading of Options, Futures, Long and Shorts using **R** (Regression analysis, Decision Trees, Random Forest classification).
- Graphical representation of outcome of predictions using **R Graphics gallery**.
- Hands-on experience in **Predictive Analysis and Forecasting** of critical market conditions using R for business decision making.
- Designing the User Interface of the web application and developing complex server functionalities in **Shiny**.
- Integrating the R Graphics with the web application as an interactive GUI to help users take necessary business decisions.
- Power point presentations to Business Development Executives regarding Market Analytics.
- Excellent knowledge in Statistics and experience in business analytics using **Tableau Desktop**.
- Created Aggregates, Charts, Filters, Quick Filters, Table Calculations, Trend lines and Parameters in Tableau Desktop.
- Created User-Defined functions in R and calling them in Tableau environment to calculate Option prices (i.e. premiums).
- Visual representation of What-if analysis of critical market conditions in Tableau Charts (analytics).
- Integrating R and Tableau Desktop** and creating a customized and interactive Dashboard for **What-if analysis** of typical market conditions using multiple data sources.
- Connecting R and Tableau to MYSQL database using Wampserver Phpmyadmin..
- Demonstrated ability to work both in independent and team-oriented environments with well-developed organizational skills.
- Excellent interpersonal and communication skills, solving and delivering solutions under high stress environment.
- Communicating with Business Development's Executives on a regular basis.
- Knowledgeable and experience with ERP Documentation, Contract creation, Supply Chain Management, Derivatives (Options & Futures, Long and Shorts).
- Online Training of candidates on R for levels: Beginner, Intermediate and Experts.

Environment: Windows 7, Ms Office, PowerPoint, MYSQL, TABLEAU DESKTOP, R, SHINY, RSTUDIO.

Role: Project Analyst

Project Details: Here we present a project based on nearly complete human olfactory sub-genome elucidated by mining the genome draft with gene discovery algorithm. Human olfactory receptors can be classified into two broad groups- functional (intact) genes and non-functional (pseudo) genes.

Our objective is to design an algorithm by analyzing some differentiating features of the genes statistically in order to classify a human olfactory receptor into one of the two categories: functional and non-functional (pseudo) gene. Our objective was to develop a model by which we can classify a given human olfactory receptor gene as functional or non-functional using statistical pattern recognition techniques.

Roles and responsibilities:

- Develop multiple regression analysis and build predictive model for identification of a given gene (as functional or non-functional) using SAS, R, STATISTICA, MATLAB, MINITAB etc.
- Suggest a modelling on genomic data to find out the empirical probability, with which to explore the probability of a human gene to be either one of the two types: Functional or non-functional genes.
- Data mining using STATISTICA by the tool Support Vector Machine and Neural Network.
- Use support vector machine (SVM) solver to get best tuning parameter of soft margin, and build ROC curves for different regression methods for possible best model combination, confirmed by the calibration on test data.
- Evaluation of model fit by the goodness of fit of adjusted R², confounding analysis and elimination of redundant variables, the inclusion of higher order interaction of major factors—details of analysis by SAS.
- SAS programming for statistical data analysis and data management and mapping in SQL.
- Generate graphics and data summary tables using SAS (BASE, STAT, GRAPH, ODS, SQL, Macros) and conducted complex statistical analysis by using R.
- Verify data quality and review files for data error correction.
- Designed analytic data set specifications, managed and manipulated multiple large data sets using Access Query, SAS, SQL, and SAS Macros, performed calculations and summarizations.
- Participated in statistical analysis including general linear and nonlinear mixed models, structural equation models, item response theory, and generalized linear models.
- Generated data summary tables and graphical representations in SAS, EXCEL and PPT on assigned projects.
- Worked collaboratively with team members, contributed to the data collection and plan, maintained complete documentation following department standard operating procedure.
- Experience in producing regular project status updates in Power-point presentations

Environment: Windows 7, Ms Office, PowerPoint, SQL, SAS, R, C, STATISTICA, MINITAB.

Education

Post Graduate Diploma in Insurance Management
Symbiosis (score: Grade A)

Kolkata, West Bengal, India

Masters: Statistics
University Of Calcutta

Kolkata, West Bengal, India

Bachelor of Science: Statistics
St Xavier's College

Kolkata, West Bengal, India

Thesis/Dissertation

University Of Calcutta , Kolkata, WB, India

2006-2008

Project Details:

In this project a comparative study between LIC and Other Insurance Companies is presented to reveal the truth "which insurance company is actually meant for the profit of the common people?".

In other words it is a priority for every person to "LOOK BEFORE YOU LEAP".

This statistical study of different insurance companies presents some empirical tests of the relationship between financial development and the development of the life insurance sector and provides empirical evidence of the negative effect of a monopolistic market on life insurance growth. My objective was to find out how much the maturity benefits at the end of the life insurance policies (of LIC & Others) are affected with reference to the change in the money value per year.

Project Analysis:

- Analyze data using statistical procedures such as: t-tests, ANOVA, chi-square, multiple regression, ANCOVA, factor analysis, and correlation analysis using R and SAS.
- Responsible for statistical interpretation of outputs using SPSS and MINITAB, MATLAB.
- Detection of outliers (if any) in the data using graphical representations in R and Ms Excel.
- Estimation of money value for the next few years starting from the current year by using simple **linear regression model in R and SAS**.
- Fitting of linear regression equation to the data of insurance policies of LIC and Other Insurance Companies using Ms Excel and R.
- Prediction of Maturity Benefits in terms of money for the future years depending on the estimated money value using MINITAB and R.
- Comparing the estimated maturity benefits of the policies of LIC and Other Insurance Companies.

Environment: Windows 2003, 2005, 2008, XP, R, C, MS OFFICE, MATLAB, MINITAB, SAS.

Key Strengths

- Believe in myself with the objective that nothing is impossible
- Fast learning ability
- Commitment towards work
- Great Team Player

I hereby declare that the information given above is true to the best of my knowledge.

(Debapriya Ghosh)

<https://in.linkedin.com/pub/debapriya-ghosh-interested-to-switch/b9/8b/988>