

Ravindranath Nemani

Phone: +91 7799850722

Email: nravindranath10@gmail.com

Objective:

To apply Statistical modeling, Data Mining, and Machine Learning techniques and SAS/R programming to solve problems for the business.

Experience Summary:

Possess over 8 and 1/2 years of experience in the Analytics industry. Worked in the areas of Risk, Sales and Marketing Analytics for the Banking, Retail and Investment Management domains.

Key Skills:

Statistical Modeling techniques (Multivariate Linear and Logistic Regression, Clustering, Decision Trees, Survival Analysis), Time Series techniques (ARMA, ARIMA, VAR, VECM), Bayesian techniques (Bayesian Networks), Machine Learning techniques (Support Vector Machines, Neural Networks), Optimization techniques (Linear Programming, Mixed Integer Linear Programming problems, Vehicle Routing problem, Traveling Salesman problem), Mathematical Finance (Option Pricing, Ito's calculus, Interest Rate models), Softwares (SAS, R, C)

Work Experience:

Data Scientist at Franklin Templeton, Hyderabad (Dec 2013 – Present)

- Worked on Financial Advisors Sales prediction project. Improved on the existing methodology for Sales prediction by developing an algorithm which makes use of Exponential Smoothing techniques and Logistic Regression techniques to predict Financial Advisor sales. Rigorously backtested both the existing algorithm and the new algorithm to see if any improvements can be made and any efficiencies can be gained. The new algorithm gave results which were very close to the existing algorithm and was appreciated by the manager and senior managers. Also tested to see if any seasonality was present in the FA sales using Time series techniques like ARIMA, X11 and X12.
- Worked on the Survival Analysis project on Life Settlement data provided by the client. Used the VBT tables provided by the client to get the mortality rates for the 30-year male non-smoking population. Fitted the Cox Proportional Hazards model to estimate the fitted survival curves. Compared the survival curves obtained from the VBT table and the survival curve obtained from the Life Settlement data (after fitting the model). Obtained results which were satisfactory to the client.
- Worked on the Mortgage Analytics project to predict the probabilities of default using data provided by the client. Had extensive discussions with the client to decide on the format of the data to be used for building the model. Built a Logistic Regression model to predict at loan level, the probabilities of the first transition to 30-days past due. Based on extensive weekly meetings with the client, revised the model several

times to incorporate the changes suggested by the client like inclusion of macroeconomic variables, inclusion of seasonal indicators, creation of meaningful derived variables which could be potentially good predictors etc.

- Client wanted the team to build a model to predict the Case-Shiller Index. Advising team members on a project which involves prediction of the Case-Shiller Home Price Appreciation Index. This project involves building a Vector Autoregressive (VAR) and Vector Error Correction Model (VECM) to CS index with several macroeconomic variables being used as other variables. Extensively studied the literature to come up with the key steps in the modeling process and also finding answers to questions related to maximum lag order selection, Cointegration rank selection, interpretation of the cointegration relations, choice of goodness-of-fit measures and model selection related queries. Suggesting ways to improve the predictive power of the model.
- Working on Activity Allocation and Scheduling model. This project is part of the Contact Strategy. Consultants either visit or Call the Financial Advisors in their territory. This project involves coming up with a mathematical function to calculate the ROI from Activities which can be a Visit or a Call. The project was done in two parts. In the first part, the objective is to assign either a Visit or a Call to the Advisor using an ROI function. I proposed to compute the ROI as a linear weighted function of some input variables and came up with an innovative algorithm to calculate the weights using the data. In the second part, Activity Scheduling, I have to make use of the Vehicle Routing algorithm/Traveling Salesman problem to be able to come up with a set of optimal routes in a week for the Consultant to follow in order to visit the Advisors in his territory in that given week.

Senior Analyst at Infosys Technologies Limited, Bangalore (May 2011 – Jan 2013)

- Worked on a Direct Mail Marketing Response Prediction problem for a retail client. Used Logistic Regression technique to build the model. Compared the predictive model with baseline models from a cost/benefit perspective, looking for gains in terms of total lost profit.
- Was involved in CRM Analytics projects for entire Customer lifecycle (Acquisition, Retention and Churn models). Built OLS and logistic regression models.
- Involved in trainings on Basic and Advanced Statistical Modeling, SAS and R
- Working for the Customer Privacy Capability team for American Express client. Responsible for generating monthly metrics for the CPC team.

Team Leader at TATA Consultancy Services, Bangalore (Sep 2010 – May 2011)

- Led the Retailer Management Services Canada team for client AC Nielsen. Responsible for timely delivery of Market Research reports. Responsible for supervising projects done by junior members.

Lead Analyst at Kie Square Consulting Pvt. Ltd, New Delhi (Feb 2010 – Sep 2010)

- Worked for the Risk Management Team of Central Board of Excise and Customs. Responsible for building Fraud scorecards for the imports database. Objective was to identify fraudulent cases in the imports database. Developed Multiple Linear and Logistic regression models.

Assistant Manager at HSBC Global Resourcing, Kolkata (Oct 2006 – May 2007)

- Worked in the Collections Segmentation project for creating risk based customer segments to help the business allocate different collections calling strategies to different customer segments. This involved defining charge-off risk for customers in different delinquency buckets, extracted data from monthly and weekly data files, performed data preparation, dividing data into training and validation samples, and building the CHAID segmentation model on the dataset and also validated the model

Senior Analyst at e-Serve International Ltd (Citigroup Global Services), Mumbai (Dec 2005 – Sep 2006)

- Was involved in developing Credit Scorecards. Worked with Weights of Evidences, Information Values, KS Statistic, ROC curves. Built Logistic Regression based scorecards. Worked on creating dashboards for campaign performance supporting the Database Marketing team. This involved data management across multiple databases and data sources, ensuring correctness of data and maintaining 100% accuracy. Was also involved in Training.
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Business Analyst at GE Capital International Services, Gurgaon (Jun 2002 – May 2004)

- Worked on a Response Modeling project to determine the best customers to target for an upcoming acquisition campaign. Applied statistical modeling and segmentation tools like logistic regression and CHAID to obtain mailing list (of customers) for new product.
- Developed weekly reports to report out loss reserve estimates for each line of business.

Projects at ISI:

- Worked on ARIMA forecasting project.

Education:

Master of Statistics	Indian Statistical Institute (ISI, Kolkata, 2002)
Bachelor of Statistics	Indian Statistical Institute (ISI, Kolkata, 2000)
Class XII	S.E.R.M.H.S School (Kharagpur, 1996)
Class X	S.E.R.M.H.S.School (Kharagpur, 1994)