YU (DANIEL) WANG, Ph.D.

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### SUMMARY

* Over 10 year experience in pharmaceutical sales analytics, data science, machine learning and advanced analytics to create actionable insights and recommendation that impact business top and bottom lines.
* Proven ability in gathering data from various sources. Utilizing optimization and statistical modeling tools to identify actionable insights for business improvement such as targeting, segmentation, sales force alignment, sales call plan, promotion response, marketing mix model, resource allocation optimization, customer lifetime value, revenue management, ROI, pricing elasticity, and association analysis.
* Self-motivated, result-oriented and exhibits strong interpersonal skills along with the ability to proactively interact with all levels of employees including senior management.
* Excellent verbal and written communication skill, possessing attention to detail and the ability to multi-task.
* Drove technical innovation through active research and applications of new theories, techniques, and technologies. Exhibited creative and critical thinking in problem solving.
* Expertise in developing SAS procedures, macros and applications for data manipulating, statistical analysis/modeling, reporting, visualization and documentation.
* A trusted partner and team leader. Extensive experience in project management, developing strong working relationships and deep partnership with the business.
* Award winner for excellent consulting and business acumen to drive and influence key business decisions.
* Expert skill in storytelling and presenting actionable insights and recommendation. Clearly communicated findings from initiatives to senior management and to the broader organization. Demonstrated experience in translating analytical model findings to non-technical audiences.

#### TECHNICAL SKILLS

*Software Packages:* SAS 9.4, 9.2 and 9.1, SAS Forecast Server, CPLEX, Microsoft 2013 (Access, Excel, Word, and PowerPoint), TOAD, Brio and SQL Server

*Languages:* SAS, Oracle PL/SQL, UNIX Shell Script, JavaScript, VBA. Python, R

*Certificate:* SAS certified programmer, Cognizant Excellence of Leadership, Cognizant Code of Business Conduct and Ethics, Cognizant Information Security.

#### EXPERIENCES

## Cognizant, a global leader in business and technology solution providers, Parsippany NJ

## 04/16 – Present

Engagement Manager/BI Manager

Provided leadership in highly technical consulting in identifying and implementing state of the art data science, machine learning and Operations Research optimization technologies and supported the functional business units in meeting strategic business objectives. Actively involved, defined and validated complex business solutions requiring the uses of mathematical, statistical models and analytical systems to solve client business problems and to provide information for management decision making. The provided solutions regularly had a significant financial impact to the organization.

* Built a customer lifetime value (CLV) model by using the BG/NBD algorithm to estimate the frequency and linear regression method to predict the profit. Each customer was scored by using the CLV model. Estimated $6MM more revenue for different campaigns in a year.
* Directed the customer churn analysis and revenue churn analysis. Selected the best churn prediction among the regression and gradient boosting algorithms. Different sales promotions were recommended to maximize ROI by the churn prediction and customer characteristics.
* Created and managed a marketing mix model to optimize marketing spending across detailing, sampling, TV, radio and national publications. Reached the same sales goals with $5 MM less cost.
* Redesigned and implemented a new forecast approach by selecting the best forecast among Proc Forecast, Proc ARIMA, Proc ESM and Proc UCM from SAS ETS and an in-house developed forecast method. The new approach improved the accuracy of forecast by15~20%. Proposed new approaches and methodologies for future enhancements.
* Developed a Market Basket Analysis to improve the up-sell, cross-sell and the design of product bundles. Up to 11% up-sell and cross-sell increase following the recommendation.
* Designed and developed a new log regression model and algorithm for optimal pricing strategies in multiple competitor dynamic marketing environments. Up to 4% sale increase after the release.
* Worked closely with system engineers to deploy models in production both in near-real-time and in batch process and systematically tracking model performance. Designed a new optimization algorithm that improved the system performance at least 500 times faster.
* Led advanced analytic projects and delivered innovative technical solutions to solve problems and improve business outcomes.
* Engaged with key business stakeholders in discussion on business strategies and opportunities.
* Executed sophisticated quantitative analyses and advanced modeling that translates data from multiple sources and of multiple varieties into actionable insights.
* Led the design and development of machine learning/statistical models and ensure rigorous validation procedures and best performance.
* Quickly established a trust client partnership and created 7 additional onsite and offshore data scientist positions.

## Experis, a leading business analytics consulting company, a member of ManpowerGroup company, Cincinnati OH 11/05-11/15

Senior Project Manager/Delivery Specialist 09/09-11/15

Led a team of data scientists in understanding and mapping clients business requirements, manipulating and transforming internal and external big datasets, converting the business requirements to analytical models, testing, validating and selecting the optimal model to meet the business needs, visualizing the results and explaining to the non-technical audiences, generating complex business reports, dashboard and KPI, improving the data process efficiency and automation for various clients in pharmaceutical and healthcare industries.

* Designed and implemented targeting, segmentation, optimal sales forces alignment, and sales call plan to improve the sales force efficiencies. Visualized the optimal sales force alignment and sales calls on interactive Google maps to monitor and improve the sales performance.
* Built an optimal sales forces model in SAS, and reached same marketing and sales goals with 200 less sales representatives.
* Used SAS Forecast Server to create optimal statistical forecasting model for a family of finished goods demands. The family of finished goods had backward compatibility, through multiple distribution channels and sales organizations, and two different demands cycles. Up to 15% accuracy increase over existing forecast model.
* Led the design, development and implementing customized advanced analytics in support of brand performance, market size, sales force structure, segmentation, sales response, marketing mix optimization and ROI.
* Designed and performed various statistical tests such as A/B test and ANOVA tests in measuring sales representative’s performance.
* Created statistical forecasts and modeling various scenarios such as genetic intrusion, new product launches, and competitive entrants to the market, contract CSO and commercial campaigns.
* Designed and developed a time based basket analysis to predict the right time to promote the right service to the right customers.
* Designed and developed web crawling and text mining algorithms to collect financial statements of publicly- traded companies. Designed optimal statistical models to predict the right time to promote the right service to the right company.
* Served as a subject matter expert in machine learning, optimization, forecasting, prediction, statistical modeling and advanced analytics.
* Performed statistical analysis using many SAS modules and procedures in SAS/BASE, SAS/STAT, SAS/MACRO, SAS/HPF, SAS/ETS and SAS/ODS, such as PROC LOGISTIC, PROC GLM, PROC MEANS, PROC ARIMA, PROC FORECAST and PROC SQL.
* Led a group of data science consultants, accomplished projects by communicating, coordinating, planning, hiring, coaching and counseling.

Delivery Specialist 11/05-08/09

Evaluated client business operations and determined recommendations for changes and improvements. Built new business models and software tools to simplify and automated the business analysis process and efficiency.

* Consulted business stakeholders to specify the detail business requirements and technical configurations. Designed and built a database system that collected all the required data from various sources. Developed a supply chain optimization model in CPLEX that maximized capacitated throughput with uncertain demand and the required customer satisfaction levels.
* Developed in-depth knowledge SAS program tool in physician channel segmentation and targeting by utilizing primary and secondary data to maximize the sales effort with the least sales force and met the co-promoting contract requirement.
* Designed and developed statistical procedures for A/B test. Collected the data needed, interpreted the results and recommended actionable improvement.
* Analyzed the marketplace, future trends and summarized results, generated meaningful recommendations.
* Prepared weekly and monthly business ad hoc reports and dashboard including ROI analysis, KPI and products mix model optimization to improve business processes, procedures and sales performance.
* Provided timely, systematic and thorough advanced analytical solutions to ad hoc information requests. Worked with other group members to develop strategic market assessments and summaries.

#### EDUCATION

Ph.D. Operations Research, Carleton University, Canada

M.S. Mathematics, East China Normal University, China

B.S. Mathematics, East China Normal University, China