***The beneficiary’s specific responsibilities will include the following:***

***1.     Perform project planning and execution, establish framework for product launch, and generate market insights.***

***2.     Establish appropriate model framework.***

***3.     Define metrics needed to populate model.***

***4.     Perform Predictive and Analytics Modeling to develop and implement forecast models.***

***5.     Identify appropriate methodology and standards that would be appropriate to specific pharmaceutical products.***

***6.     Integrate insights from marketing, market research, market access, medical, and targeting and alignment to comprehensively forecast brands.***

***7.     Interpret results produced by models and generate recommendations and engage in discussions with key stakeholders to gain forecast output acceptance.***

***The beneficiary will utilize various tools and techniques to predict new product demand volume in order to optimize product marketing for drugs, perform sensitivity analysis and diagnostics, and provide risk management guidance.  The beneficiary will use sophisticated analytic simulation tools, forecasting models, and patient flow models.***

Mr. Vinod Kumar Singh graduated with his bachelor’s degree in Computer Science and Engineering from Kalinga Institute of Industrial Technology in May 2012. His courses here included, but were not limited to:

1. Database Management Systems & Lab
2. Artificial Intelligence
3. Human Resource Management & Entrepreneurship
4. Cryptography and Network Security
5. Operating Systems
6. Computer Systems and Computer Programming Lab
7. Object-Oriented Programming (Python, C++) and System Design
8. Design & Analysis of Algorithms and Lab
9. Internet Technology
10. Mathematics I-IV
11. Engineering Economics
12. Industrial Training & Project Work

His syllabus was focused upon the application of Database Management, Artificial Intelligence, Human Resource Management & Entrepreneurship, and Computer Programming in real world problems and case studies related to various industries (i.e., Finance and Healthcare). Computer Concepts and Programming languages (like Python & C++) gave particular emphasis on building logical thinking. Design & analysis of algorithm module has been helpful in solving complex problems by breaking them down into simpler modules. In addition to that, the Computer Programming lab aimed at building a strong conceptual foundation and hands-on experience in code writing and its optimization.

Mr. Vinod Kumar Singh’s coursework in Mathematics (Statistical methods, Probability, Sampling) and Engineering Economics increased his proficiency in the applications of advanced mathematical concepts typically found in business-related disciplines such as Business Management, Operations Research and Marketing Research and among many others. This course trained him on data analytics techniques on structured data, statistical analysis and quantitative methods that helps businesses make better decisions and gain insights into business operations.

Database Management Systems course has been helpful to manage a large amount of data in multiple types of databases. This increases the organizational accessibility to data, which in turn helps the end-users share the data quickly and effectively across the organization. Moreover, the knowledge of Artificial Intelligence helped him building a model on data to provide better insight and eventually solve many real time business questions.

As a part of Human Resource Management and Entrepreneurship, Mr. Vinod Kumar Singh got well versed with the execution of the various steps of the marketing research process including problem definition, research design, project development, deployment, and maintenance. Emphasis through projects, was given to project planning, interpretation of results, discussions with key stakeholders, recommendations to business problem statements, and ways to help organizations in addressing substantive marketing problems such as: market segmentation, forecasting market demand, developing advertising and pricing policies.

Cryptography & Network Security and Coding reinforced the design principles and functions of modern encoding and decoding methodologies used in encryption and decryption of data sent over various channels. Moreover, the course was intensive towards essential aspects of enhancing data security, data quality, and data integration.

Operating Systems was centered on defining the functionalities of various operating system parts which manage different aspects like speed, memory and security of computer systems. Mr. Vinod Kumar Singh got well versed with concepts like scalability of processing units and memory units to handle the extreme amount of real time data for analysis. Moreover, the coursework familiarized him with the best practices that go behind the creation of a data-driven culture and process.

In his final year project, Mr. Vinod Kumar Singh designed, developed, and implemented websites and database for the 99th Indian Science Congress which was held on Jan-2012 at Bhubaneshwar Odisha. Website allowed users to register for the program with online payment of registration fee, manage accommodation, travel details, and schedules for presentation.

There are numerous manual processes in medicine right now, and this is an area in which technology can help in the workflow and patient care. Predictive data analytics could help make better decisions regarding the diagnosis and the treatment options available to patients as well as physicians. Overall, Mr. Vinod Kumar Singh’s comprehensive curriculum at the Engineering college and industrial experiences improved his capacity for thinking critically and creatively about quantitative and qualitative problems involving business data.