BLUU OCEAN

ANALYTICS AND DATA SCIENCE SERVICES

Bluu Ocean through its partner Entiovi has a dedicated team principally engaged in the application of advanced analytical methods to businesses, using expertise in Data Science, Machine Learning, Dynamical Systems, and Operations Research. We use mathematical and statistical modeling techniques and efficient algorithms to extract actionable insights from business and public data in a variety of industries including healthcare, insurance, human resources and telecommunications. Our goal is to bridge the gap between research in Computer Science, Statistical Physics and Physiology and the business implementation of those concepts. We have a primary interest in building products and providing services that have significant impact and provide continuing benefit for our customers.

DATA SCIENCES

Our Data Scientists have years of experience in analytics domain and exposure to various verticals like Banking & Finance, Healthcare, Retail, Transport and Web analytics. They have excellent in-depth knowledge of SAS, R, Python, SQL and mathematical modelling and are experienced in conducting in depth research and translating business questions to solvable problems using a variety of statistical techniques.

DATA INTEGRATION / BI

Our Data Integration Engineers have extensive experience in working with a variety of databases (MySQL, MSSQL, Oracle 9i, DB2), query systems (SQL, PL/SQL, BigQuery, NoSQL), ETL (Talend Open Studio, Informatica, SAS DI), data integration tools (Base SAS, SAS Decision Manager, Pandas) and visualization tools (Cognos, Tableau). We have expert web and mobile developers experienced in working with PHP, HTML/CSS/JS, Python, Angular, Cordova, Ionic, and Android Studio.

OTHER SKILL SETS

- UNIX ,Shell Scripting, SQL, SAS, Python and designing ETL, ELT workflows, developing applications involving Raspberry Pi IOT
- Tableau, Qlikview, Qlik Sense, Analytics Canvas and Xcelsius. Integration of Tableau with Python and R to make visually rich dashboards to meet advanced analytical requirements.

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AREAS OF EXPERTISE

Mathematical Modeling Systems with inherent complexity arise in business processes, social and economic interactions, and biological activity. We use mathematical methods to decompose such systems into sets of interacting components and simulate their activity. Such models can then be simulated to obtain quantitative predictions as well as identify the emergence of unexpected behavior.

Data Science Fluctuations and randomness pepper almost every observable behavior, hiding patterns and correlations. We use methods from statistics, probability, statistical physics, information theory and econometrics to analyze business as well as scientific problems and develop algorithms that predict outcomes.

Operations Research While modeling and prediction allow us to understand system behavior, knowing the optimal response to this discovered behavior is essential for effective analytics. We leverage the mathematics and science of Operations Research and allied fields to formulate and solve optimization problems that inform decision-making.

Scientific Computing Scientific computing involves the use of advanced computing capabilities to solve complex problems in physical, biological and social science. We use Monte Carlo and molecular dynamics simulations, graph theoretic and network science techniques, dynamical systems analysis, as well as image and signal processing.

Application Development We encapsulate our solutions into deployable applications either on cloud platforms or on the premise of the client. We design and develop systems to integrate and store data, perform computations and display information either through a web or desktop application.

Communication, Data Visualization and User Experience No amount of analysis achieves the desired result if it cannot be immediately, accurately and convincingly communicated among stakeholders with minimum confusion. We employ principles of written and graphical communication as well as interface and interaction design to streamline the comprehension of our reports

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OUR EXPERIENCE

US Healthcare Analytics

- Non-Invasive Blood Glucose Counter using Machine Learning/Statistical Modelling

The project has been performed for US based company where spectral data of the subject/patient has been provided along with vitals as well as blood glucose measured using instant blood checking systems, such as, instant glucometer.Data processing has been performed using 7-Step to clean up the noise obtained in the Raman signal. The steps start from wavelength calibration through system calibration (NIST Raman Standard) as well as fluorescence (background) corrections. Multiple model approach have been taken up in the iteration process. A few are bivariate regression, anova, multi-colinearity, multiple type of variable transformations (square, cube, exponential, inverse of exponential etc.). Multi level classification approach has been taken from low blood glucose content to high to very high blood glucose content. After multiple iterations, and model refinement, the current level of accuracy has been reached to 89% with the accepted sensitivity of device used to generate spectral data points

Indian Healthcare Analytics

- **Hospital management**

We are providing functional, technical and marketing guidance for a business intelligence product which helps to analyze the huge cache of data that is generated from hospital management systems and electronic health records. Stakeholders can get live clinical and administrative insights on all aspects of a hospital. This product goes on to de-identify all hospital data and uses the entire repository of data to analyze and come with population insights, meaningful for strategic decision-making.

Transportation and Logistics

- Route Optimization for Call-Center Employees

Call Centers often arrange door-to-door or point-to-point transport for their employees. When the number of employees per shift is large, the associated transport cost needs to be appropriately optimized. We built a solution to optimally group employees according to vehicle capacity and route each vehicle such that the monetary cost is minimized without compromising the convenience of the employees. In addition, our solution was compliant to labor laws which often call for an escort for female employees travelling alone.

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Telecom and Power

- Web Based BI Tool for DISCOMS

A large Indian Market Research & Managment Consulting company was seeking to develop an online reporting tool for Power Offtake Risk Assessment of Discoms (Electricity Distribution Companies). The intended objective of this tool is to provide various reports concerning Performance Index of Discoms. The objectives of the online reporting tool application are as follows: 1. Provide an import process to upload pre-defined and pre-calculated fixed-format excel/CSV data sheets of Discoms in a predefined cycle in a year. 2. User Management and access rights to online users (subscribers) for multiple reports, compare raw and Analytical data regarding operational, financial and regulatory performance of Discoms. 3. To enable online subscriber to download reports in excel and/or pdf format The adopted technology stack is : 1. D3JS 2. Javascript 3. MySQL 4. HTML5/CSS/Bootstrap The application is in responsive design too so that this becomes compatible with mobile device

- Web Based BI Tool for Nokia Telecom (Iran)

A similar platform to the above was developed for site audit management of telecom installations.

Food Industry / Supply Chain

- Spend Analytics portal for large US Food Corporation

Business Objective of the BI portal is to increase profitability and ROI of the supply chain and procurement operations by providing deep and actionable insights into Vendor | Item | Rate | Volume Spend Inflation Analysis
Spend Inflation Control Tower
3rd Party Funding Analysis
The portal provides deep dive views into the supply chain spend data, in order to provide management actionable insights into –
Total Spend Inflation
Unit Rate Inflation
New Item / Supplier Inflation
Increased Volume Inflation