

Sample Problem Statement for CoE in Data Analytics & AI

Data Analytics is the discovery, interpretation, and communication of meaningful patterns in data. Especially valuable in areas rich with recorded information, analytics relies on the simultaneous application of statistics, computer programming and operations research to quantify performance. AI or Artificial Intelligence is technology designed to emulate the human mind, particularly in areas such as analysis and learning. AI is designed to draw conclusions on data, understand concepts, become self-learning and even interact with humans. AI and data analytics are connected because the former boosts the capabilities of the latter to deliver deeper and better insights beyond what human analysts can do.

Organizations may apply AI with analytics to business data to describe, predict, and improve business performance. Since analytics with AI can require extensive computation, the algorithms and software used for the purpose harness the most current methods in computer science, statistics, and mathematics.

Some of the sample problem statements where Data Analytics and AI can make a difference are given below.

1. Smart projects in the IoT enabled world

With the introduction of concept of smart cities, smart agriculture and smart health care and application of IoT in various sectors, huge amount of data will be generated. Long term success of these project will depend on the underlying data analytics capability. Data transmitted by the various sensor, needs to be continuously processed, creating alarms and triggers in immediate term and intelligence/insights in long term.

2. Market Potential for Data Analytics CoE at Tripura

a) The public sectors across the state generate a huge amount of data in transactions, employment, education, manufacturing and agriculture, to name a few. Data analytics applications can significantly help the State government to achieve efficiencies, combat fraud, bring transparency, foster the economy, and spike productivity and growth. These applications in collaboration with private organizations can enable government and public-sector organizations to offer effective services and respond more quickly and accurately to the citizens' need.

b) The healthcare Application-e-Hospital within the state has a unique opportunity to leverage data analytics to conduct scientific research, clinical trials, develop personalized and genetic medicine, and use medical data to chart out public policies. Data in healthcare comes from various sources such as biometric, patient records, prescription, and machines. Big data analytics can be used on the data emanating from all these sources to generate actionable insights, predict outcomes, and plan treatment protocols for effective public health.

c) The department of education within the state having large volume of student's data which includes their performance, demographics, and other academic information, the government of Tripura would be able to monitor and predict state/district-wise figures, plan and allocate budget with the help of data analytics.

3. Social schemes and budget allocation

India's budget allocation for various social schemes like NREGA, MUDRA schemes, Ayushman Bharat and various others are not properly designed. Linking of the AADHAR to various services like finance, healthcare etc. is expected to create a gigantic pool of data which will need to convert the raw data into meaningful information and facilitate analysis. These insights can help design social schemes and budget allocation more efficient.

4. Tax evasion and money laundering

Tax evasion and money laundering is a growing menace in our society. Demonetization in India has brought about an attitudinal shift in the minds of the Indian people with more individuals now migrating towards digital payment mediums and this increasing digitization of transactions is a positively correlating factor for the Big Data Analytics demand in the country. The CoE can work on solutions to fight corruption and money laundering through Data Analytics.

5. Cybercrimes and cyber security

Cybercrimes and cyber security are threatening India's most secured servers and Government websites. According to Cisco, India faces the highest number of cyber security threats in the Asia-Pacific region with over 500,000 alerts daily, which is nearly thrice the number of alerts at global companies. These threats can be mitigated with expert Data Analysts and Data Science experts.