galvanize

Case Study:

Accelerating a data-driven business model with upskilling

How transforming analysts into data translators and data scientists drove growth, cost savings and efficiencies

INTRO

A Fortune 10 energy company, already investing in a data transformation initiative, encountered roadblocks with existing talent which was inhibiting business growth.

CHALLENGE

In business for over 100 years and one of the world's seven oil and gas "supermajors," the Company faced a number of challenges stemming from legacy infrastructure, policies, and organizational layout.

The Company recognized data was key to aligning the transformation needs of the business with the ambitious goals set by leadership. Although there were many existing data analysts on staff, the Company faced several challenges which included: a reliance on property tooling, heavy inconsistencies between choice of analytics tools, and a general lack of state-of-the art tool adoption. Additionally, the Company was heavily investing in new technologies, like smart sensors and safety reporting technologies, which were poised to provide an influx of new data.

The Company realized that the best solution for its transformation was to upskill and reskill its existing workforce to capture new business value.

SOLUTION

Galvanize worked with the Company to assess its existing talent pool and confirmed that the current staff was not equipped to handle the Company's business challenges and new technologies being implemented. Galvanize worked with the Company to customize a curriculum that would align specifically with the skills required to leverage their data. Specific aspects of natural language processing and deep learning were built into the educational experience in a hands-on manner.

Galvanize delivered a Data Science Core project-based program to promote measurable understanding and practical application of the topics, with each lesson reinforced with an exercise using real data and problem-solving skills. The training kicked off with students identifying a dataset and business opportunity that could be addressed using data science. The instructors then took on the role of consultants, working in an agile environment to coach the students to polished data products. The program concluded with a capstone project - a culmination of all the lessons learned. Many of the projects served as prototypes implemented immediately or soon thereafter. Others solved a specific business problem and enabled more informed data-driven decision making.

OUTCOME

Analysts and business intelligence professionals were upskilled into data translators and data scientists. Individuals with high levels of business acumen, but little technical expertise, were reskilled. Many of the capstone projects served as prototypes and were implemented immediately or soon thereafter. Others solved a specific business problem and enabled more informed data-driven decision making.

The Company has estimated the projects completed during training will save the Company $200mm+ in costs. These projects included: optimizing deployment of their contractors to save costs, reducing labor costs across several roles through automation, building a system using AI to prioritize safety reports, predicting failure of their equipment in the field; predicting oil well production and building models to determine drilling locations and predicting failure of assets.

Program Topics Included:

- **Python Programming, and Mathematical and Statistics Essentials**
- **Data Ingestion, Extract Transform Load (ETL)**
- **Data Visualization**
- **Statistics, Hypothesis Testing, Exploratory Data Analysis**
- **Machine Learning, Predictive Analytics**
- **Linear Models, Time-series Modeling**
- **Unsupervised Learning and Natural Language Processing (NLP)**
- **Deep Learning, Neural Networks**
- **Data Science Workflow and Production**
- **Capstone Projects**