Hailu Gudissa

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PROFESSIONAL SUMMARY

I am a Master of Science degree holder in Irrigation Engineering with a solid foundation in designing canals, canal structures, and Dams. Adept at evaluating and supervising construction of irrigation projects and designing surface and pressurized irrigation systems. I am also a certified Data Science professional with a strong foundation in statistical analysis and machine learning. Proven ability to solve real-world problems through data and eager to contribute to innovative teams in dynamic environments.

TECHNICAL SKILLS

Languages & Tools: AutoCAD, ArcGIS, Python, and SQL
Libraries/Frameworks: Pandas, NumPy, and Scikit-learn
Data Science: EDA, Supervised/Unsupervised ML, Classification, Clustering, Recommendation System, Regression analysis, Pattern or Trend analysis, and confusion matrix analysis
Visualization: Matplotlib, Seaborn, and Plotly
Other: Jupyter Notebooks, Git, Github, and Kaggle

WORK EXPERIENCE

Senior Irrigation Engineer **05/09/2018 - 05/09/ 2020**
Ethio-Sugar Manufacturing Industry Share Company, Addis Ababa, Ethiopia

- Professional Consulting for the developed private Ethio-Sugar Manufacturing Industry Share company

Senior Irrigation Engineer **10/15/2012 - 05/09/ 2018**
Sugar Corporation, Addis Ababa, Ethiopia

- Performed a per-feasibility and feasibility studies for the sugar development projects
- Evaluated a design document prepared by consultants for sugar development projects
- Participated in bid document evaluation
- Supervised, supported and controlled the different sugar development projects' performance
- Studied effective and adaptable irrigation technologies and encouraged the best ones to be adopted
- Consulted on construction of irrigation and drainage structures and water use management systems

Irrigation Engineer **09/19/2011 - 10/09/2012**
Oromia Water Works Design and Supervision Enterprise, Addis Ababa, Ethiopia

- Designed pressurized and surface irrigation system
- Designed irrigation structures and system layout

PROJECTS

Logistic Regression for Spaceship Titanic Project

- Performed data wrangling or data cleansing by dealing with missing values.
- Replaced the missed record of each categorical column with the most frequent value of the given feature column and missed value of each numerical column with the mean value of the numerical data.
- Encoded the categorical data to numerical values using one hot encoder method of Sklearn.
- Normalized the numerical data with StandatdScaler method to prevent biased large values of data.
- Deployed a Logistic Regression method and identified a set of parameters for fine tuning the model.
- Executed the accuracy of the model using the best_score_ method.
- Used the developed model to predict the target with the test feature to see the implication of its patterns or trends.

Machine Learning Prediction on Space X Falcon 9 First Stage Landing

- Assigned the targeted class column from the loaded data frame to the variable Y, and standardized the feature data and reassigned to the variable X using the transform method and then fitting it.
- Splitted the X and Y data into training and test data using the method train_test_split
- Created Logistic Regression, Support Vector Machine, Decision Tree Classifiers, and K-Nearest Neighbors objects and then fitting the objects to find the best parameters from the dictionary parameters.
- Displayed the best parameter & accuracy using the data attributes best_params_ and best_score_, respectively.
- Calculated the accuracy of the models on the test data using the method score.
- Developed the confusion matrix for the logistic regression, Support vector machine, Decision tree classifiers and K-nearest neighbors

EDUCATION

IBM data science Professional Certificate | Coursera (IBM)

Master of Science in Irrigation Engineering | *Haramaya University*

Bachelor of Science in Land Resource Management and Environmental Protection option: Soil and Water Conservation | Mekelle University