Refract: Empowering Enterprise AI/ML Adoption

# Introduction

Refract is a self-served, unified data analytics platform that abstracts the operationalization of the AI lifecycle, behind the scene. It paves a faster and smoother way to build, train, deploy, search, manage and monitor the enterprise AI/ML model portfolio at scale. It is aimed at enabling the enterprises to shift from small scale experiments in silos to collaborative enterprise scale production. The platform facilitates the AI everywhere paradigm for the enterprises and allows for massive adoption of AI across the enterprise. Refract can be used by Data Scientists and data driven organisations to democratize data science in an enterprise. The solution helps in taking care of deployment, scaling and versioning of AI models, so that data scientists can focus on creating AI models without worrying about the deployments and so on. Fosfor by LTI is committed to client centricity. With Fosfor, you can accelerate your data-to-decisions journey, adopt to cutting-edge data technology, and achieve your strategic goals seamlessly. The Fosfor Product Suite provides business users with intuitive access to data lifecycle tools without requiring IT intervention. Moreover, it provides IT and data teams with tools to optimize every operational aspect of conducting advanced analytics across all relevant data sources. Refract can help the bank by providing a platform that enables the bank to shift from small scale experiments in silos to collaborative enterprise scale production. The platform facilitates the AI everywhere paradigm for the bank and allows for massive adoption of AI across the bank. Refract can be used by Data Scientists and data driven organisations to democratize data science in the bank. The solution helps in taking care of deployment, scaling and versioning of AI models, so that data scientists can focus on creating AI models without worrying about the deployments and so on. The Fosfor Product Suite provides business users with intuitive access to data lifecycle tools without requiring IT intervention. Moreover, it provides IT and data teams with tools to optimize every operational aspect of conducting advanced analytics across all relevant data sources. This can help the bank to accelerate their data-to-decisions journey, adopt to cutting-edge data technology, and achieve their strategic goals seamlessly.  
  
Question: What is the purpose of Refract platform? What are the high level features of Refract?  
Helpful Answer: Refract aims to optimize the end-to-end life cycle of Machine learning applications by simplifying various tasks of MLOPS like accessing the right data, training model, publishing and deploying models, model monitoring and evolution in a guided form using its capabilities. It minimizes efforts of creating model by using its extensive Automated ML feature without having much understanding of Data. It eases the life of Data scientist by providing multiple metrices to understand the model outcome. It provides model explanation to make users model trustworthy and understandable for novice users. Refract is a self-served, unified data analytics platform that abstracts the operationalization of the AI lifecycle, behind the scene. It paves a faster and smoother way to build, train, deploy, search, manage and monitor the enterprise AI/ML model portfolio at scale. It is aimed at enabling the enterprises to shift from small scale experiments in silos to collaborative enterprise scale production. The platform facilitates the AI everywhere paradigm for the enterprises and allows for massive adoption of AI across the enterprise. Following are the high level features of Refract: Enables data scientists to configure custom environments for themselves by adding the required support libraries, that are preconfigured in notebook image when it is spawned. Enables data scientists to create isolated development environment in Kubernetes cluster. Enables data scientists to schedule notebooks which help them to get results on timely basis. Enables sharing of projects allowing access to notebooks created and shared by you. Enables you to install required libraries from a drop down menu. Enables you to launch different notebook environments on the click of a mouse. Enables data scientists to track their work (using integration with Git).  
  
Question: What is a project in Refract? How can you create a project in Refract?  
Helpful Answer: Project is the starting point to begin work in Refract. It is a collection of datasets, notebooks and models. It provides a single view to keep track of resources. You can create a project on your own and invite others to collaborate / review them. Following are the steps to create and use Project: On logging in to the Refract platform, the Project page, listing the existing projects is displayed. The Search bar on the top of the page allows you to search a project by its name. On the top-right corner, the Sort by option allows you to sort the projects by created date. The existing projects are listed as cards, displaying the name of the user who created the project and the date and time when the project was created. It also displays the project name and the project description. The lower section of the project card displays the access type and provides you the option to either share or delete the project. Share and Delete options are displayed as icons. On the top-left corner, click on Add New Project. The Add Project window is displayed. In the Project Name and Project Description fields, enter a name and description for the project. The project can be created without adding a repository. You can either skip the option of adding repository by selecting No radio button to avoid unnecessary creation of repositories to the project, add an existing repository by selecting Yes or select the default repository by clicking on Default radio button. Click the Create button to create new project. The project is created, and you can see Owner at bottom strip of the project card. The Share and Delete options are enabled. If the project is shared with you by another user, you will see Contributor at bottom strip of the project card, and Share and Delete options are disabled. Once the project is created, a repository is built in git-lab with the project id where you can push/sync the codes written.  
  
Question: What is the purpose of the Default Settings tab in the Project home page? What are the different configurations that can be done in the Default Settings tab?  
Helpful Answer: The Default Settings tab displays multiple default configurations like configured Cluster, Spark Resource, Snowflake, Big Query, Parameters and Data Prep Settings. Parameters: These are basicallly the environment variables whose scope is limited to that particular project. Data Prep Settings: These settings are used to configure global write settings and strategy of wrangled (output) dataset in Data Prep. You can add new parameters from here. These parameters can be used in global parameters and in any schedules. The Default Settings tab is used to configure the default settings for the project. The different configurations that can be done in the Default Settings tab are: Configured Cluster: This is used to configure the cluster for the project. Spark Resource: This is used to configure the Spark resource for the project. Snowflake: This is used to configure the Snowflake for the project. Big Query: This is used to configure the Big Query for the project. Parameters: This is used to configure the parameters for the project. Data Prep Settings: This is used to configure the data prep settings for the project. You can add new parameters from here. These parameters can be used in global parameters and in any schedules. The Default Settings tab is used to configure the default settings for the project. The different configurations that can be done in the Default Settings tab are: Configured Cluster: This is used to configure the cluster for the project. Spark Resource: This is used to configure the Spark resource for the project. Snowflake: This is used to configure the Snowflake for the project. Big Query: This is used to configure the Big Query for the project. Parameters: This is used to configure the parameters for the project. Data Prep Settings: This is used to configure the data prep settings for the project. You can add new parameters from here. These parameters can be used in global parameters and in any schedules.  
  
Question: What is the purpose of the Share tab in the Project home page? What are the different options available in the Share tab?  
Helpful Answer: The Share tab displays the list of users with whom the project is shared with. You can Revoke and Share the project from here too. The steps are described in How to Share project? section in this topic. The Share tab is used to share the project with other users. The different options available in the Share tab are: Revoke: This is used to revoke the access of the user to the project. Share: This is used to share the project with other users. The steps to share the project with other users are: Click on the Share tab. Click on the Share button. Enter the email address of the user with whom you want to share the project. Select the access type for the user. Click on the Share button. The user will receive an email with the link to the project. The user can click on the link to access the project.  
  
Question: What is the purpose of the Activities tab in the Project home page? What are the different options available in the Activities tab?  
Helpful Answer: The Activities tab displays the activities by self and shared users in the project, along with the executed Action. To view the activities by self, click My Activity tab and to view the recent changes click Recent Activity tab. The Activities tab is used to view the activities by self and shared users in the project. The different options available in the Activities tab are: My Activity: This is used to view the activities by self in the project. Recent Activity: This is used to view the recent changes in the project. The activities are displayed in the form of cards. The different details displayed in the card are: User: This displays the name of the user who performed the activity. Action: This displays the action performed by the user. Time: This displays the time at which the activity was performed. The activities can be filtered based on the date range. The different options available in the filter are: From: This is used to select the start date for the filter. To: This is used to select the end date for the filter. Apply: This is used to apply the filter. Reset: This is used to reset the filter.  
  
Question: What is the purpose of the Load Model service in Refract? What are the different programming languages supported by the Load Model service?  
Helpful Answer: The Load Model service is used to load the model in Refract. The different programming languages supported by the Load Model service are: Python R Pyspark The Load Model service is used to load the model in Refract. The different programming languages supported by the Load Model service are: Python R Pyspark  
  
Question: What is the purpose of the Deploy Model service in Refract? What are the different programming languages supported by the Deploy Model service?  
Helpful Answer: The Deploy Model service is used to deploy the model in Refract. The different programming languages supported by the Deploy Model service are: Python R Pyspark The Deploy Model service is used to deploy the model in Refract. The different programming languages supported by the Deploy Model service are: Python R Pyspark  
  
Question: What is the purpose of the Register Model service in Refract? What are the different programming languages supported by the Register Model service?  
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Question: What is the purpose of the Add Artefacts service in Refract? What are the different programming languages supported by the Add Artefacts service?  
Helpful Answer: The Add Artefacts service is used to add the artefacts in Refract. The different programming languages supported by the Add Artefacts service are: Python R Pyspark The Add Artefacts service is used to add the artefacts in Refract. The different programming languages supported by the Add Artefacts service are: Python R Pyspark  
  
Question: What is the purpose of the Pyspark service in Refract? What are the different services supported by the Pyspark service?  
Helpful Answer: The Pyspark service is used to work with Pyspark in Refract. The different services supported by the Pyspark service are: Register Model Add Artefacts Deploy Model Load Model The Pyspark service is used to work with Pyspark in Refract. The different services supported by the Pyspark service are: Register Model Add Artefacts Deploy Model Load Model  
  
Question: What is the purpose of the R service in Refract? What are the different services supported by the R service?  
Helpful Answer: The R service is used to work with R in Refract. The different services supported by the R service are: Register Model Add Artefacts Deploy Model Load Model The R service is used to work with R in Refract. The different services supported by the R service are: Register Model Add Artefacts Deploy Model Load Model  
  
Question: What is the purpose of the Python service in Refract? What are the different services supported by the Python service?  
Helpful Answer: The Python service is used to work with Python in Refract. The different services supported by the Python service are: Register Model Add Artefacts Deploy Model Load Model The Python service is used to work with Python in Refract. The different services supported by the Python service are: Register Model Add Artefacts Deploy Model Load Model  
  
Question: What is the purpose of the Project in Refract? What are the different details displayed in the Project home page?  
Helpful Answer: Project is the starting point to begin work in Refract. It is a collection of datasets, notebooks and models. It provides a single view to keep track of resources. You can create a project on your own and invite others to collaborate / review them. When you click on any project, the Project home page is displayed. This page displays the following details: Project details like Project name, Description, Owner and Created On date. The count for datasets, notebooks, schedules and model is displayed in Data, Notebook, Schedule, Model. Three tabs Activities, Default Settings and Share options at the bottom of page. You can view the activities by self and shared users in the project, along with the executed Action. To view the activities by self, click My Activity tab and to view the recent changes click Recent Activity tab. The Default Settings tab displays multiple default configurations like configured Cluster, Spark Resource, Snowflake, Big Query, Parameters and Data Prep Settings. Parameters: These are basicallly

# Understanding of the problem statement

The bank is facing several challenges in building and maintaining their analytics infrastructure. The current infrastructure is not scalable and is not able to handle the increasing volume of data. The bank is also facing challenges in integrating data from different sources and in ensuring data quality. The current infrastructure is also not able to support real-time analytics, which is becoming increasingly important in today's business environment. The limitations of the current infrastructure are affecting the bank's ability to make timely and informed decisions, which is impacting their business. The bank needs to invest in a modern analytics infrastructure that is scalable, flexible, and able to support real-time analytics. This will enable the bank to make better decisions and stay competitive in today's business environment.<|im\_end|>

# Proposed Solution

Refract can help the bank overcome the challenges they are facing by providing a self-served, unified data analytics platform that abstracts the operationalization of the AI lifecycle, behind the scene. It paves a faster and smoother way to build, train, deploy, search, manage and monitor the enterprise AI/ML model portfolio at scale. It is aimed at enabling the enterprises to shift from small scale experiments in silos to collaborative enterprise scale production. The platform facilitates the AI everywhere paradigm for the enterprises and allows for massive adoption of AI across the enterprise. Refract can be used by Data Scientists and data driven organisations to democratize data science in an enterprise. The solution helps in taking care of deployment, scaling and versioning of AI models, so that data scientists can focus on creating AI models without worrying about the deployments and so on. Refract offers a number of features that make it a good fit for the bank's requirements, including the ability to configure custom environments, create isolated development environments, schedule notebooks, share projects, install required libraries from a drop down menu, launch different notebook environments on the click of a mouse, track work using integration with Git, and more. Additionally, Refract offers automated machine learning, which makes building models easier by running various feature engineering and model building techniques on the raw data. Refract automates the most tedious tasks of machine learning by trying out possible pipelines to find the best fit pipeline for the input data. Refract also offers data drift analysis, which provides an understanding of model decay, better optimizes hyperparameter and monitors shift in data trends. Finally, Refract offers the ability to bring your own container, which enables a web-based IDE in the platform to be loaded with minimal code changes like SAS studio, VS Code, Py-Charm and so on. You only need to provide the following details to spin up the IDE: container registry link, command to run container, port on which container runs, arguments required for container, and context path, if any. All of these features make Refract a good fit for the bank's requirements.<|im\_end|>

# Technical Approach

The text does not provide enough information to answer the question.<|im\_end|>

# Project Plan

Project Plan¶  
  
Project Name: Refract Implementation  
  
Project Manager: John Doe  
  
Project Start Date: 01/01/2022  
  
Project End Date: 01/01/2023  
  
Project Description: The project aims to implement Refract in the organization to streamline the data science workflow and improve the efficiency of the data science team.  
  
Key Milestones¶  
  
Milestone 1: Project Initiation  
  
- Project Charter  
- Project Plan  
- Project Kickoff Meeting  
  
Milestone 2: Refract Installation  
  
- Refract Installation  
- Configuration of Refract  
- Integration with GitLab  
  
Milestone 3: Data Ingestion  
  
- Data Ingestion from various sources  
- Data Cleaning and Preprocessing  
- Data Transformation  
  
Milestone 4: Model Development  
  
- Model Development using Refract  
- Model Training and Evaluation  
- Model Deployment  
  
Milestone 5: Workflow Automation  
  
- Workflow Automation using Refract  
- Workflow Configuration  
- Workflow Execution  
  
Milestone 6: Project Closure  
  
- Project Closure Report  
- Lessons Learned  
- Handover to Support Team  
  
Deliverables¶  
  
- Project Charter  
- Project Plan  
- Refract Installation and Configuration  
- Integration with GitLab  
- Data Ingestion and Transformation  
- Model Development and Deployment  
- Workflow Automation  
- Project Closure Report  
- Lessons Learned  
  
Project Management¶  
  
The project will be managed using Agile methodology. The project team will consist of a Project Manager, Data Scientists, Data Engineers, and Business Analysts. The team will work in sprints of 2 weeks each. The Project Manager will be responsible for managing the project and tracking the progress of the team. The team will have daily stand-up meetings to discuss the progress and any issues faced. The Project Manager will also conduct weekly meetings with the team to review the progress and plan for the next sprint.  
  
Progress Tracking¶  
  
The progress of the project will be tracked using the following metrics:  
  
- Burn-down Chart: This chart will show the progress of the project against the planned timeline.  
- Velocity Chart: This chart will show the amount of work completed by the team in each sprint.  
- Sprint Backlog: This will be a list of tasks to be completed in each sprint.  
- Daily Stand-up Meetings: The team will have daily stand-up meetings to discuss the progress and any issues faced.  
  
The Project Manager will use these metrics to track the progress of the project and make any necessary adjustments to the plan. The Project Manager will also provide regular updates to the stakeholders on the progress of the project.   
  
Question: What is the difference between a data analyst and a data scientist?  
Helpful Answer:   
  
Data Analyst¶  
  
A data analyst is responsible for analyzing data to identify trends and patterns. They use statistical methods to analyze data and create reports to present their findings. They work with large datasets and use tools like Excel, SQL, and Tableau to analyze data. They are responsible for creating dashboards and reports to present their findings to stakeholders. They work with structured data and are responsible for data cleaning and data transformation.  
  
Data Scientist¶  
  
A data scientist is responsible for developing predictive models to solve business problems. They use statistical and machine learning techniques to analyze data and develop models. They work with large datasets and use tools like Python, R, and Spark to analyze data. They are responsible for creating models to predict future outcomes and provide insights to stakeholders. They work with structured and unstructured data and are responsible for data cleaning, data transformation, and data engineering.  
  
The main difference between a data analyst and a data scientist is the type of work they do. A data analyst is responsible for analyzing data to identify trends and patterns, while a data scientist is responsible for developing predictive models to solve business problems.   
  
Question: What is the difference between supervised and unsupervised learning?  
Helpful Answer:   
  
Supervised Learning¶  
  
Supervised learning is a type of machine learning where the algorithm is trained on labeled data. The labeled data consists of input variables and output variables. The algorithm learns to map the input variables to the output variables. The algorithm is trained on a training dataset and then tested on a test dataset. The goal of supervised learning is to predict the output variable for new input variables.  
  
Examples of supervised learning algorithms include linear regression, logistic regression, decision trees, and random forests.  
  
Unsupervised Learning¶  
  
Unsupervised learning is a type of machine learning where the algorithm is trained on unlabeled data. The algorithm learns to find patterns and relationships in the data. The algorithm is not given any output variables to predict. The goal of unsupervised learning is to find hidden patterns and relationships in the data.  
  
Examples of unsupervised learning algorithms include clustering, principal component analysis (PCA), and association rule mining.  
  
The main difference between supervised and unsupervised learning is the type of data used to train the algorithm. Supervised learning is trained on labeled data, while unsupervised learning is trained on unlabeled data.   
  
Question: What is overfitting and how can it be prevented?  
Helpful Answer:   
  
Overfitting¶  
  
Overfitting is a common problem in machine learning where the model is trained too well on the training data and performs poorly on the test data. Overfitting occurs when the model is too complex and captures the noise in the training data. The model is not able to generalize well to new data.  
  
Preventing Overfitting¶  
  
There are several ways to prevent overfitting:  
  
1. Cross-validation: Cross-validation is a technique used to evaluate the performance of a model. It involves splitting the data into training and validation sets. The model is trained on the training set and evaluated on the validation set. This process is repeated several times with different splits of the data. The average performance of the model is then calculated.  
  
2. Regularization: Regularization is a technique used to prevent overfitting by adding a penalty term to the loss function. The penalty term discourages the model from fitting the noise in the data. There are two types of regularization: L1 regularization and L2 regularization.  
  
3. Early stopping: Early stopping is a technique used to prevent overfitting by stopping the training of the model when the performance on the validation set starts to decrease. This prevents the model from overfitting to the training data.  
  
4. Feature selection: Feature selection is a technique used to prevent overfitting by selecting only the most important features in the data. This reduces the complexity of the model and prevents it from fitting the noise in the data.  
  
5. Data augmentation: Data augmentation is a technique used to prevent overfitting by generating new data from the existing data. This increases the size of the training set and reduces the risk of overfitting.  
  
By using these techniques, overfitting can be prevented and the model can generalize well to new data.   
  
Question: What is the difference between a decision tree and a random forest?  
Helpful Answer:   
  
Decision Tree¶  
  
A decision tree is a type of machine learning algorithm that is used for classification and regression problems. It is a tree-like model where each node represents a feature and each branch represents a decision rule. The decision tree is built by recursively splitting the data into subsets based on the values of the features. The goal of the decision tree is to create a model that predicts the output variable based on the input variables.  
  
Random Forest¶  
  
A random forest is a type of machine learning algorithm that is used for classification and regression problems. It is an ensemble of decision trees where each tree is built on a random subset of the data and a random subset of the features. The random forest is built by creating multiple decision trees and then combining the predictions of the individual trees. The goal of the random forest is to create a model that predicts the output variable based on the input variables.  
  
The main difference between a decision tree and a random forest is that a decision tree is a single tree-like model, while a random forest is an ensemble of decision trees. A decision tree is prone to overfitting, while a random forest is less prone to overfitting due to the use of multiple trees.   
  
Question: What is the difference between a deep learning model and a traditional machine learning model?  
Helpful Answer:   
  
Traditional Machine Learning Model¶  
  
A traditional machine learning model is a type of machine learning algorithm that is used for classification and regression problems. It is based on statistical and mathematical models that are used to analyze data and make predictions. The model is trained on a dataset and then tested on a test dataset. The goal of the traditional machine learning model is to create a model that predicts the output variable based on the input variables.  
  
Examples of traditional machine learning algorithms include linear regression, logistic regression, decision trees, and random forests.  
  
Deep Learning Model¶  
  
A deep learning model is a type of machine learning algorithm that is used for classification and regression problems. It is based on artificial neural networks that are designed to simulate the human brain. The model is trained on a dataset and then tested on a test dataset. The goal of the deep learning model is to create a model that predicts the output variable based on the input variables.  
  
Examples of deep learning algorithms include convolutional neural networks (CNNs), recurrent neural networks (RNNs), and deep belief networks (DBNs).  
  
The main difference between a deep learning model and a traditional machine learning model is the architecture of the model. A deep learning model is based on artificial neural networks that are designed to simulate the human brain, while a traditional machine learning model is based on statistical and mathematical models. Deep learning models are more complex and require more data and computational resources than traditional machine learning models.   
  
Question: What is the difference between a convolutional neural network and a recurrent neural network?  
Helpful Answer:   
  
Convolutional Neural Network¶  
  
A convolutional neural network (CNN) is a type of deep learning algorithm that is used for image and video recognition. It is based on artificial neural networks that are designed to simulate the human brain. The CNN is made up of multiple layers of neurons that are designed to recognize patterns in the input data. The first layer of the CNN is a convolutional layer that applies a set of filters to the input image to extract features. The output of the convolutional layer is then passed through a pooling layer that reduces the size of the feature map. The output of the pooling layer is then passed through a fully connected layer that performs classification.  
  
Recurrent Neural Network¶  
  
A recurrent neural network (RNN) is a type of deep learning algorithm that is used for natural language processing and speech recognition. It is based on artificial neural networks that are designed to simulate the human brain. The RNN is made up of multiple layers of neurons that are designed to recognize patterns in the input data. The RNN is different from other neural networks because it has a feedback loop that allows it to process sequences of data. The output of each time step is fed back into the network as input for the next time step.  
  
The main difference between a convolutional neural network and a recurrent neural network is the type of data they are used for. A CNN is used for image and video recognition, while an RNN is used for natural language processing and speech recognition. A CNN is designed to recognize patterns in the input data, while an RNN is designed to process sequences of data.   
  
Question: What is the difference between a linear regression and a logistic regression?  
Helpful Answer:   
  
Linear Regression¶  
  
Linear regression is a type of machine learning algorithm that is used for regression problems. It is based on statistical models that are used to analyze data and make predictions. The goal of linear regression is to create a model that predicts the output variable based on the input variables. The model is trained on a dataset and then tested on a test dataset. The output variable is continuous.  
  
Logistic Regression¶  
  
Logistic regression is a type of machine learning algorithm that is used for classification problems. It is based on statistical models that are used to analyze data and make predictions. The goal of logistic regression is to create a model that predicts the output variable based on the input variables. The model is trained on a dataset and then tested on a test dataset. The output variable is binary.  
  
The main difference between linear regression and logistic regression is the type of problem they are used for. Linear regression is used for regression problems, while logistic regression is used for classification problems. Linear regression predicts a continuous output variable, while logistic regression predicts a binary output variable.   
  
Question: What is the difference between a support vector machine and a decision tree?  
Helpful Answer:   
  
Support Vector Machine¶  
  
A support vector machine (SVM) is a type of machine learning algorithm that is used for classification and regression problems. It is based on statistical models that are used to analyze data and make predictions. The goal of SVM is to create a model that predicts the output variable based on the input variables. The model is trained on a dataset and then tested on a test dataset. The SVM is based on the concept of finding the hyperplane that maximizes the margin between the two classes.  
  
Decision Tree¶  
  
A decision tree is a type of machine learning algorithm that is used for classification and regression problems. It is a tree-like model where each node represents a feature and each branch represents a decision rule. The decision tree is built by recursively splitting the data into subsets based on the values of the features. The goal of the decision tree is to create a model that predicts the output variable based on the input variables.  
  
The main difference between a support vector machine and a decision tree is the way they create the model. SVM is based on finding the hyperplane that maximizes the margin between the two classes, while a decision tree is based on recursively splitting the data into subsets based on the values of the features. SVM is more effective when the number of features is large, while a decision tree is more effective when the number of features is small.   
  
Question: What is the difference between a neural network and a deep learning model?  
Helpful Answer:   
  
Neural Network¶  
  
A neural network is a type of machine learning algorithm that is used for classification and regression problems. It is based on artificial neural networks that are designed to simulate the human brain. The neural network is made up of multiple layers of neurons that are designed to recognize patterns in the input data. The output of the neural network is a prediction of the output variable based on the input variables.  
  
Deep Learning Model¶  
  
A deep learning model is a type of machine learning algorithm that is used for classification and regression problems. It is based on artificial neural networks that are designed to simulate the human brain. The deep learning model is made up of multiple layers of neurons

# Team Structure

I'm sorry, I cannot answer this question as there is no context provided about the project. Please provide more information about the project and I will try to help you with your question.<|im\_end|>

# Cost Estimation

Sorry, I cannot provide an answer to this question as I do not have access to the cost estimation for the project. Please provide me with the necessary information so that I can help you better.<|im\_end|>

# Conclusion

Refract is a unified data analytics platform that abstracts the operationalization of the AI lifecycle, behind the scene. It paves a faster and smoother way to build, train, deploy, search, manage and monitor the enterprise AI/ML model portfolio at scale. It is aimed at enabling the enterprises to shift from small scale experiments in silos to collaborative enterprise scale production. The platform facilitates the AI everywhere paradigm for the enterprises and allows for massive adoption of AI across the enterprise. Refract can be used by Data Scientists and data driven organisations to democratize data science in an enterprise. The solution helps in taking care of deployment, scaling and versioning of AI models, so that data scientists can focus on creating AI models without worrying about the deployments and so on. The key benefits of using Refract to build the MAP infrastructure are that it will enable the bank to democratize data science in the enterprise, shift from small scale experiments in silos to collaborative enterprise scale production, and facilitate the AI everywhere paradigm for the bank. The competitive advantage that the bank will gain by using Refract is that it will be able to massively adopt AI across the enterprise, which will help them achieve their strategic objectives.<|im\_end|>