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 data scientists to configure custom environments for themselves by adding the required support libraries, that are preconfigured in notebook image when it is spawned. It enables data scientists to create isolated development environment in Kubernetes cluster. It enables data scientists to schedule notebooks which help them to get results on timely basis. It enables sharing of projects allowing access to notebooks created and shared by you. It enables you to install required libraries from a drop down menu. It enables you to launch different notebook environments on the click of a mouse. It enables data scientists to track their work (using integration with Git).  
  
Question: What is the purpose of 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. The purpose of a project in Refract is to provide a single view to keep track of resources. It is a collection of datasets, notebooks and models. You can create a project on your own and invite others to collaborate / review them.  
  
Question: What is the purpose of the Default Settings tab in the Project home page?  
Helpful Answer: The Default Settings tab in the Project home page displays multiple default configurations like configured Cluster, Spark Resource, Snowflake, Big Query, Parameters and Data Prep Settings. Parameters are basically the environment variables whose scope is limited to that particular project. Data Prep 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 purpose of the Default Settings tab in the Project home page is to display multiple default configurations like configured Cluster, Spark Resource, Snowflake, Big Query, Parameters and Data Prep Settings.  
  
Question: What is the purpose of the Share tab in the Project home page?  
Helpful Answer: The Share tab in the Project home page displays the list of users with whom the project is shared with. You can Revoke and Share the project from here too. The purpose of the Share tab in the Project home page is to display the list of users with whom the project is shared with. You can Revoke and Share the project from here too.<|im\_end|>

# 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 managing the data and ensuring its quality. The current infrastructure is not able to provide real-time insights, which is affecting the bank's ability to make timely decisions. The bank is also facing challenges in integrating data from different sources and ensuring its accuracy. The current infrastructure is not able to support advanced analytics techniques, which is limiting the bank's ability to gain insights from the data. These limitations are affecting the bank's ability to compete in the market and are hindering its growth. The bank needs to invest in a modern analytics infrastructure that is scalable, flexible, and able to handle the increasing volume of data. The new infrastructure should be able to provide real-time insights, support advanced analytics techniques, and integrate data from different sources. This will enable the bank to gain insights from the data and make timely decisions, which will help it to compete in the market and grow its business.<|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 process 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 Setup  
  
- Refract Installation  
- Refract Configuration  
- 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 Jupyter Notebooks  
- Model Training and Evaluation  
- Model Deployment  
  
Milestone 5: Workflow Development  
  
- Workflow Development using Refract  
- Workflow Testing and Validation  
- Workflow Deployment  
  
Milestone 6: User Training  
  
- User Training on Refract  
- User Documentation  
  
Milestone 7: Project Closure  
  
- Project Review  
- Project Closure Report  
- Lessons Learned  
  
Deliverables¶  
  
- Project Charter  
- Project Plan  
- Refract Installation and Configuration  
- Data Ingestion and Transformation  
- Model Development and Deployment  
- Workflow Development and Deployment  
- User Training and Documentation  
- Project Closure Report  
  
Project Management¶  
  
The project will be managed by the Project Manager, John Doe. The project team will consist of Data Scientists, Data Engineers, and IT Support Staff. The project will follow the Agile methodology with weekly sprints and daily stand-up meetings. The project progress will be tracked using the Refract platform, which provides real-time updates on the project status. The project manager will also conduct weekly status meetings with the project team to review the progress and identify any issues or risks.  
  
Conclusion¶  
  
The implementation of Refract will help the organization to streamline the data science process and improve the efficiency of the data science team. The project plan outlines the key milestones and deliverables for the project, and the project management approach will ensure that the project is completed on time and within budget. The project team is committed to delivering a high-quality solution that meets the needs of the organization.   
  
Note: This is just an example, you can create your own project plan based on your requirements.   
  
References¶  
  
- Refract Documentation  
- Agile Methodology  
- Project Management Institute  
  
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# Team Structure

I'm sorry, I cannot answer this question as I do not have access to the project details. Please provide more information about the project and the team members involved.<|im\_end|>

# Cost Estimation

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I'm sorry, I cannot provide an answer to this question as I do not have access to the necessary information to perform a cost estimation. Please provide more details about the project, including the scope, timeline, and any other relevant information, so that I can provide a more accurate estimate. Additionally, I am not able to compare the costs to industry standards without more information about the specific industry and market conditions. Please provide more information so that I can better assist you.<|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|>