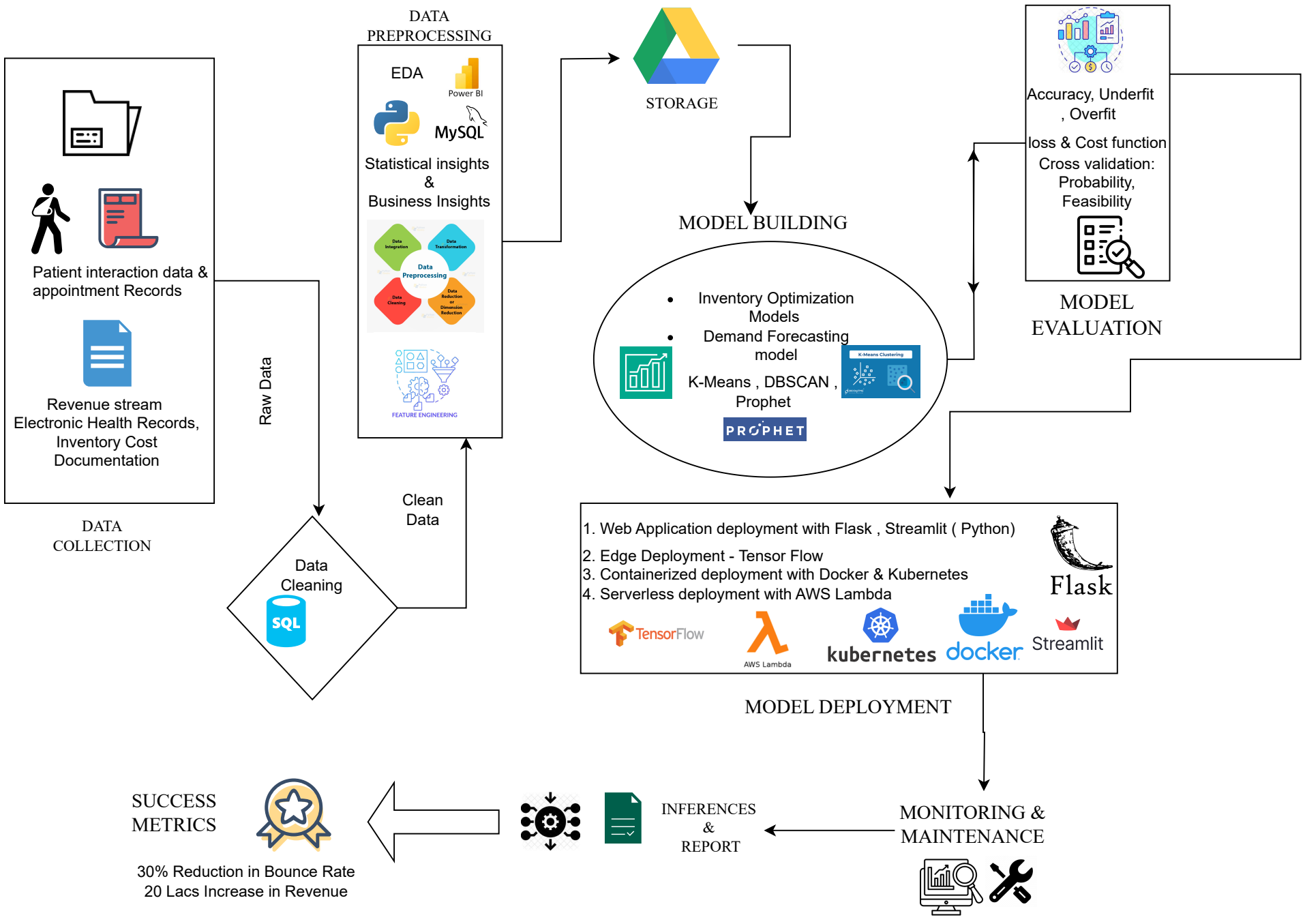
PROJECT 155: OPTIMIZATION OF MEDICAL INVENTORY



LIVER TUMOR CLASSIFICATION USING DEEP LEARNING

Understanding Business Problem

DATA COLLECTION

Histopathological images both Normal & Tumor tissues

DATA PREPROCESSING

Image Acquisition
Z-Score Normaliszation
Imbalance Handling
Standardization

MODEL SELECTION

INCEPTION
RESNet

TRANSFER LEARNING

Pre- trained
Feature Extraction
Fine-tune

TRAINING

Split data - Training & Validation dataset

VALIDATION

Fine tune Hyperparameter

TESTING

performance metrics

MODEL EVALUATION

[3]96% Accuracy , Confusion matrices & ROC curves

POST - PREPROCESSING

Noise Reduction & Smoothing

BUSINESS EVALUATION & ECONOMIC EVALUATION

DEPLOYMENT

User training support
quality assurance & testing
feed back mechanism

CONTINUOUS IMPROVEMENT

Real world perfomance & model re training with new data

Founded 2021
By Aitele Research LLP

THIS INTERNSHIP CERTIFICATE IS

PROUDLY PRESENTED TO

ORUGANTI AMSU MADHU DEEPIKA

IN RECOGNITION OF HER SUCCESSFUL COMPLETION OF

ADVANCED SCIENTIFIC RESEARCH & INTERNSHIP PROGRAM

@QUICK ISCOOL FROM MARCH 2023 TO NOVEMBER 2023.

During his internship, Ms. Oruganti Amsu Madhu Deepika demonstrated remarkable skills in conducting advanced scientific research on '**ASADH Inhibitors as Prospective Antifungal Drugs: A Computational Study on *Trichophyton rubrum* and *Blastomyces dermatitidis***' independently, and her original and innovative thinking brought valuable contributions to our research efforts. We have no doubt that Ms. Oruganti Amsu Madhu Deepika will continue to excel in her scientific career, and we wish her all the best in her future endeavors.

This certificate is issued subject to the provisions of the Quick IsCool by Aitele Research LLP.

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Ms. Amsu Madhu Deepika 's WORK SUMMARY

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20th March 2023 - 20th November 2023

* The dissertation is currently undergoing peer review as of the certificate submission.

TITLE

ASADH Inhibitors as Prospective Antifungal Drugs: A Computational Study on *Trichophyton rubrum* and *Blastomyces dermatitidis*

@amsu madhudeepika

ABSTRACT

Fungal infections, particularly those caused by *Trichophyton rubrum* and *Blastomyces dermatitidis*, pose a significant challenge to public health. *Trichophyton rubrum*, a dermatophyte fungus, is a common source of skin infections, while *Blastomyces dermatitidis*, a dimorphic fungus, can lead to potentially fatal lung infections. The enzyme Aspartate Semialdehyde Dehydrogenase (ASADH) is crucial for the biosynthesis of essential amino acids in fungi and has been explored as a potential target for antifungal drug development. In this study, we employed virtual screening and molecular docking techniques to identify potential inhibitors of ASADH from *T. rubrum* and *B. dermatitidis*. The lead compound, 2-chloro-3-methoxy-1,4-naphthoquinone, was selected and structurally similar compounds were retrieved from PubChem. Molecular docking was conducted using Autodock Vina, and ADMET properties of top-ranked compounds were evaluated. These findings provide insights into potential candidates for antifungal drug development, shedding light on a promising avenue to combat fungal infections caused by these pathogenic fungi.