1. Introduction

1.1 Overview :

Thyroid neoplasms were classified as two molecular groups ($BRAF^{V600F}$ - like and RAS-like) or three groups ($BRAF^{V600F}$ - like RAS-like, and non $BRAF^{V600F}$ -/non-RAS-like) based on the mutational and gene expression profiles [7, 8]. The $BRAF^{V600E}$ group is most commonly represented by papillary thyroid carcinoma (PTC).

1.2 Purpose :

The functional behaviour of the thyroid is fundamental in most thyroid diseases and represents the basis for diagnosis and therapy. Euthyroidism, hyperthyroidism, and hypothyroidism, clinical states reflecting normal, excessive, or defective levels of thyroid hormones, were the basis of classification (1,2).

2. LITERATURE SURVEY

2.1 Existing problems

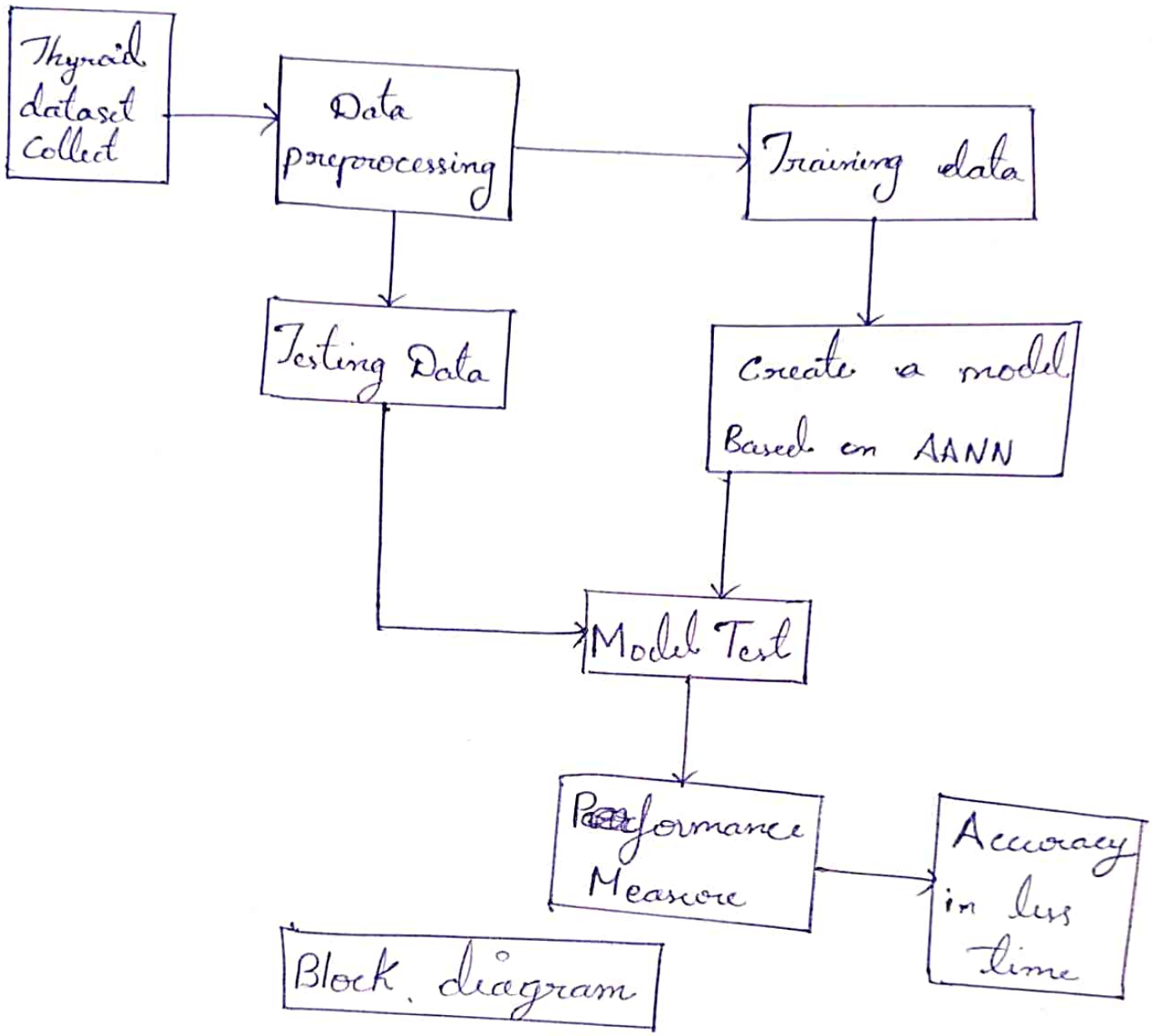
Thyroiditis : This condition is an inflammation (swelling) of the thyroid gland. Thyroiditis can lower the amount of hormones your thyroid produces. Hashimoto's thyroiditis : A painfull disease, Hashimoto's thyroiditis is an autommune condition where the body's cells attack and damage the thyroid.

2.2 Proposed solution for thyroid

if the paiunt have low levels of thyroid harmones (hypothyroidism), the main treatment option is : Thyroid replacement medication: This drug is a synthetic (man-made) way to add thyroid hormones back into your body. One drug that's commonly used is called "levothyroxine".

3. THERITICAL ANALYSIS

3.1



3.2 Hardware / software designing

we use the Anaconda and pycharm to access the data in the data set. It is compulsory to use the Anaconda prompt and pycharm to execute the codes to give an output. we also used Visual Encoder for this.

4. EXPERIMENTAL INVESTIGATION

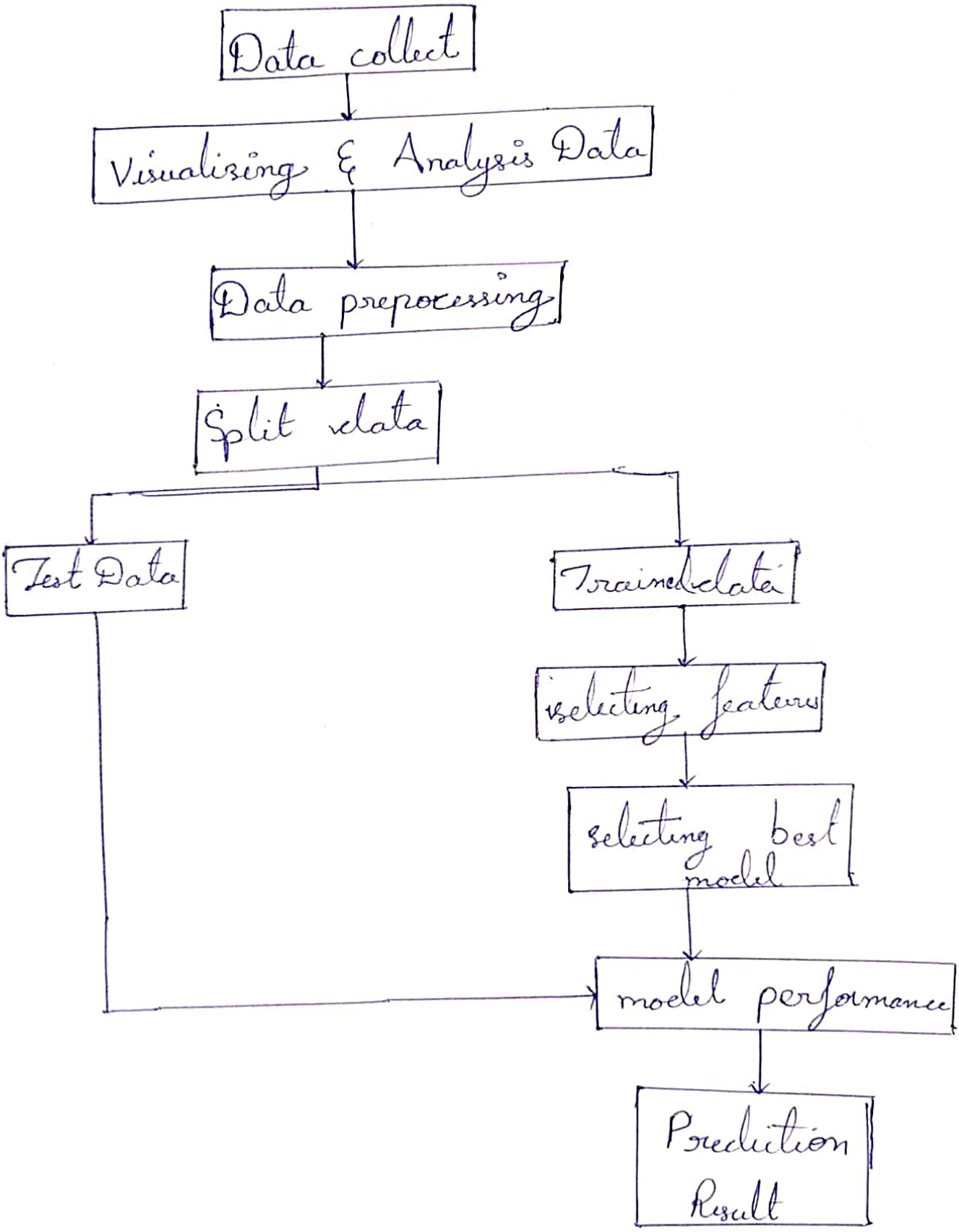
Thyroid "blood tests" check for hormones and proteins like antibodies and thyroglobulin. These test can tell you if you have conditions like hypothyroidism. It check the levels of "cholesterol (TSH)" and your level of a thyroid hormone called thyroxine. This tests will help your doctor find out if your thyroid is overactive or underactive. The above blood test can help to find the level of "Na-to-k" there are info to find the level of your thyroid is overactive or underactive. The three main blood tests are.

(i) T4 test : This is done to measure the blood level.

(ii) TSH test : This is done to find how well the thyroid is working.

(iii) T_3 total test : The is done to measure the other major thyroid hormone in the blood.

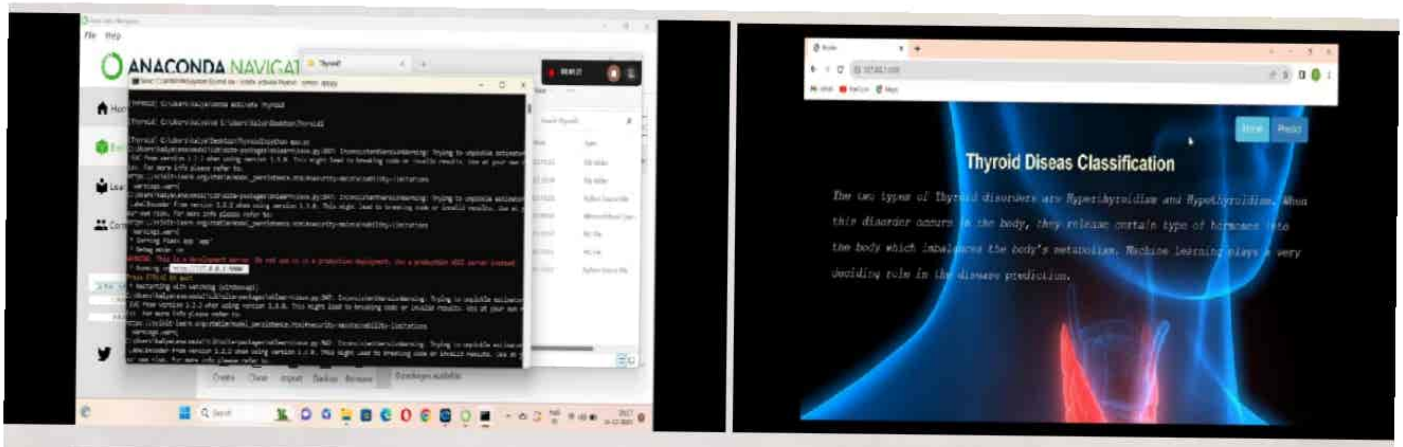
5. FLOW CHART


Data collect
Visualizing & Analysis Data
Data preprocessing
Split data
Test Data
Trained data
selecting features
selecting best model
model performance
Prediction Result

6. RESULT

Thyroid Prediction :

if we run the codes app.py in anaconda we will find the chrome link for our project and in that link we can predict the Blood pressure, Cholestrol and Na_to_K Ration and gives an output as a result of our project shown in the below picture.



7. ADVANTAGES AND DISADVANTAGES

* ADVANTAGES

→ No surgical risk, Scar or changes of Injury to parathyroid or nearest laryngeal nerve.

→ If treatment with Antithyroid shows side effects like hypothyroidism then stoppage of thyroid treatment reverse the action.

→ The Antithyroid drugs used for children as well as young adults.

* DISADVANTAGES

→ Prolonged treatments is needed because stopped of treatment shows recurrence & relapse rate is high.

→ Not practicable in uncooperative/unintelligent patient.

→ High drug toxicity & side effects

→ During pregnency thyroidectomy and 131I are contraindicated because it develops risk of foetal hypothyroidism and goiter.

8. APPLICATIONS

* US - based risk stratification system (RSS) have been used for the effective management of thyroid nodules since the early 2000.

* Certain medications (cholestyramine, colestipol, colesevelam, antacids, sucralfate, simethicone, iron, sodium polystyrene sulfonate, calcium.

* Artificial intelligence plays a crucial role in the CAD space. It is used to generate designs, improve the quality and speed of simulations safely, and optimize manufacturing processes.

* They are many commercialised programes are available to provide access to the system.

* Thyroid hormone is used to treat underactive thyroid (hypothyroidism).

* Thyroid is an important endocrine gland that makes and release certain hormones. Your thyroid's main job is to control the metabolism.

9. CONCLUSION

At last of the project has been an outstanding experience to reveal. On this thyroid classification project I have learn many new things from the project.

The Above project were done by Mechine learning and Artificial Intelligence It have become integral to our lives, and their relevance in the near future is undeniable.

I have learn many new thing on thyroid decease. And also on AI & ML progremmes and codes to create HTML codes etc... overall it has a great experiance.

This has to be a great opproiunity for me and my team. I have enjoyed every stage on making this project.

10. FUTURE SCOPE

* The thyroid gland plays an important role in metabolism of hy human body.
* If the thyroid decease increases then it can eventually lead to "coma or even death". Our scope is to reduce this type of thyroid decease.
* To reveal the importance of the thyroid to the public. It releasing and controlling thyroid hormones that control metabolism.
* To regulating the rate at which your body uses calories (energy)
* To reduce the complications due to the neglegence on thyroid problem.
* To stop the thyroid problem before it converts to the cancer.

11. BIBILOGRAPHY.

On this thyroid classification project we used the resources from the google and "APSCHE LINKS".

List of links

GitHub repository of the trained. : https://github.com/HariPrabhu741/APSCHE_Sep-AI-ML

https://github.com/Sowmya mohandas/APSCHE sep-AIML

Data sets : https://www.Kaggle.com/datasets/mexwell/us.schools stores.

https://www.Kaggle.com/datasets/prathamtripathi/drug-classification.

Record link : https://apsche-vip.teachable.com/purchase?product_id=5015540

House price prediction : https://www.Kaggle.com/datasets/shree1992/housedata