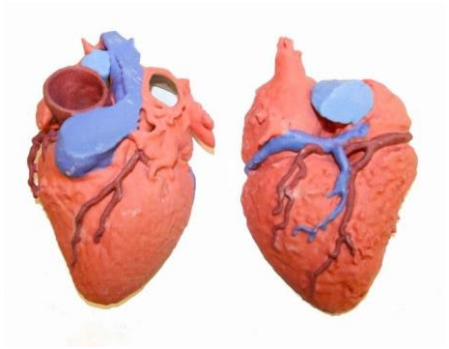
PFuzeSangLuis

Group 1

Dashboard for Monitoring and Signaling Elder's Heart Disease

Project Description



Dashboard for Monitoring and Signaling Elder's Heart Disease is a tool used for display important information about elder's activities and heart disease risk.

Using data visualization, dashboard uniquely communicate metrics visually to help users understand complex relationships in elder's activities data.

Machine learning is used to measure elder's heart disease risk, send this information to display on the dashboard.

Get requirement

Who are stakeholders?

- Ans > **Hospital**, **Organizations**, **and** **Families**

Who are users?

- Ans > **Doctors** , **Organizations** , **Elders**, **and** **Families**

What is your goal?

- Ans > **To identify elder's heart disease before it happen**

What is the input to your system?

- Ans > **Behavior data**, **sensor data** **and** **medical inspection result**

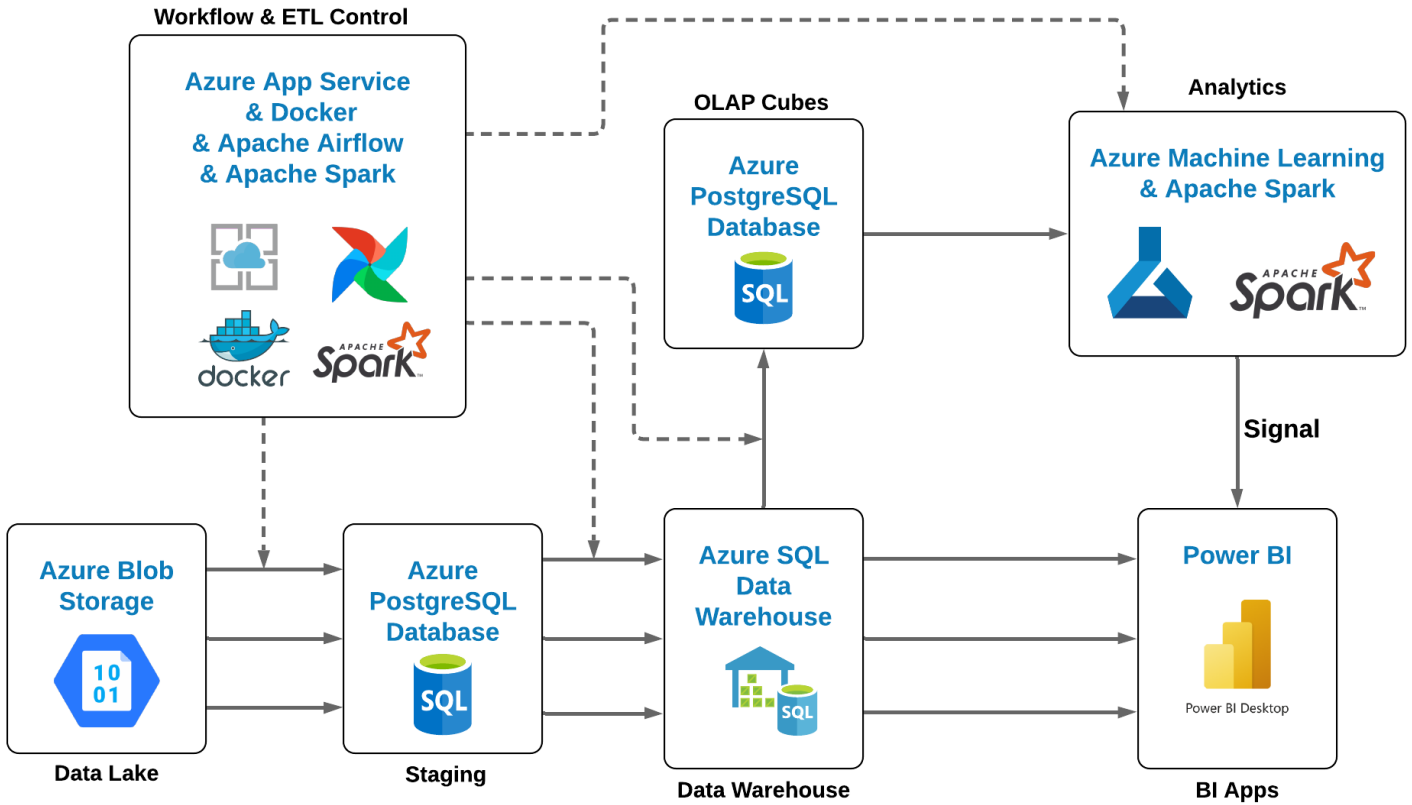
What is the output of your system?

- Ans > **Dashboard** **and** **Signal**

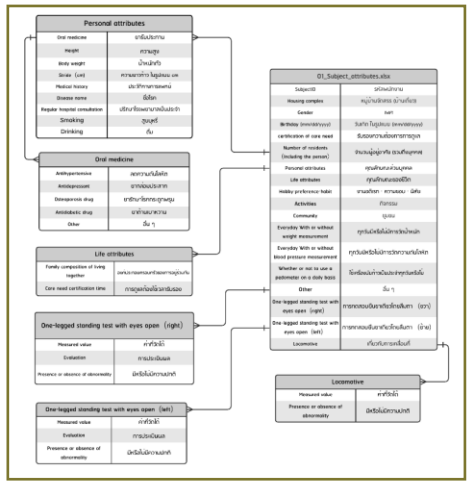
What technologies do you need to achieve your goal?

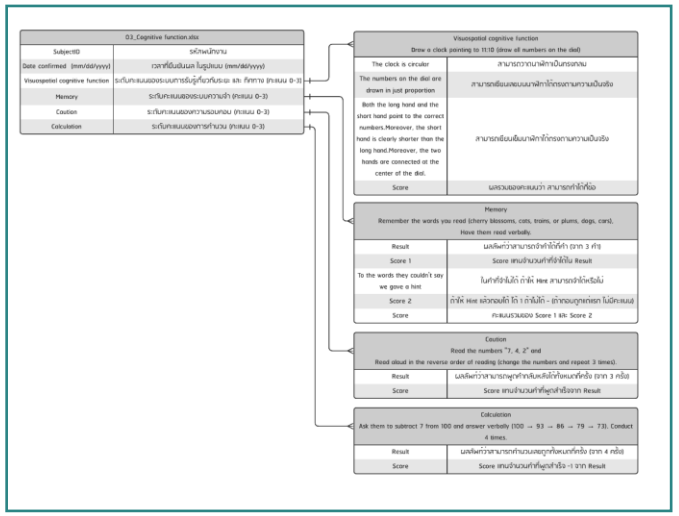
- Ans > **Big data** **and** **Machine learning**

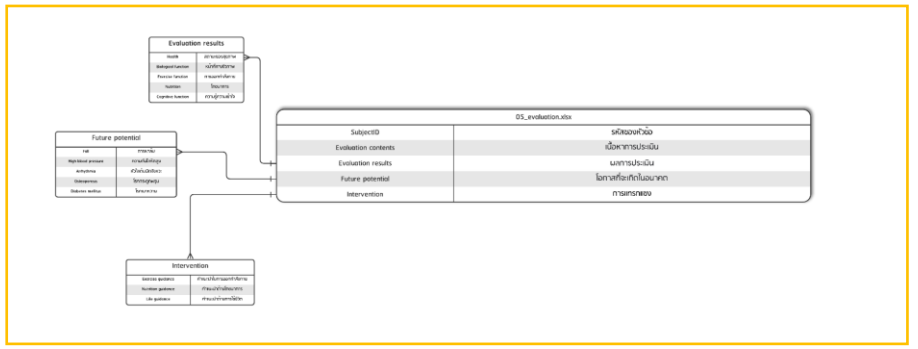
Conceptual Design

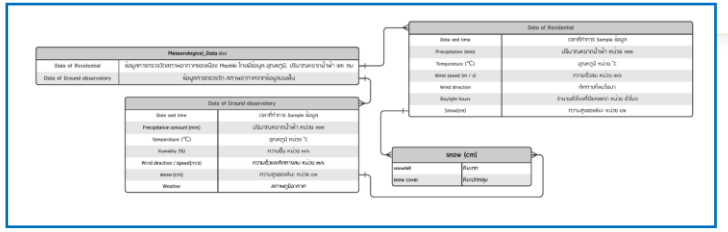


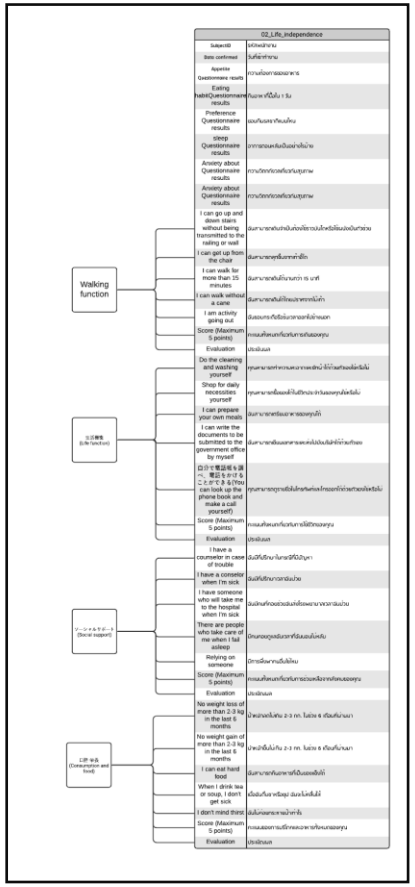
Data Pipeline Design

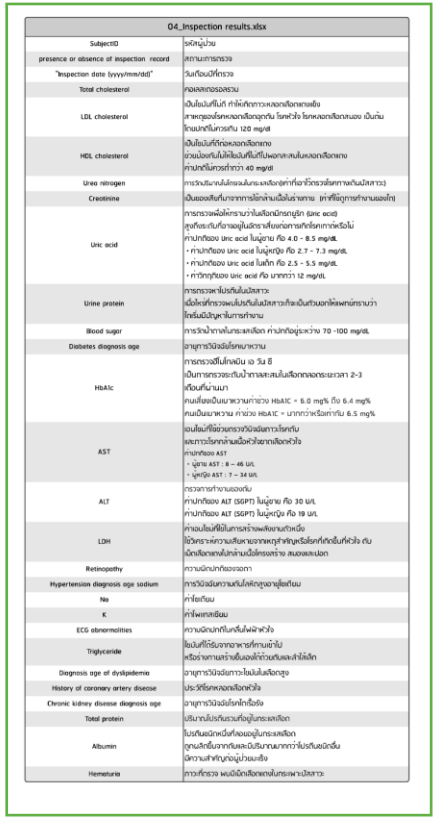






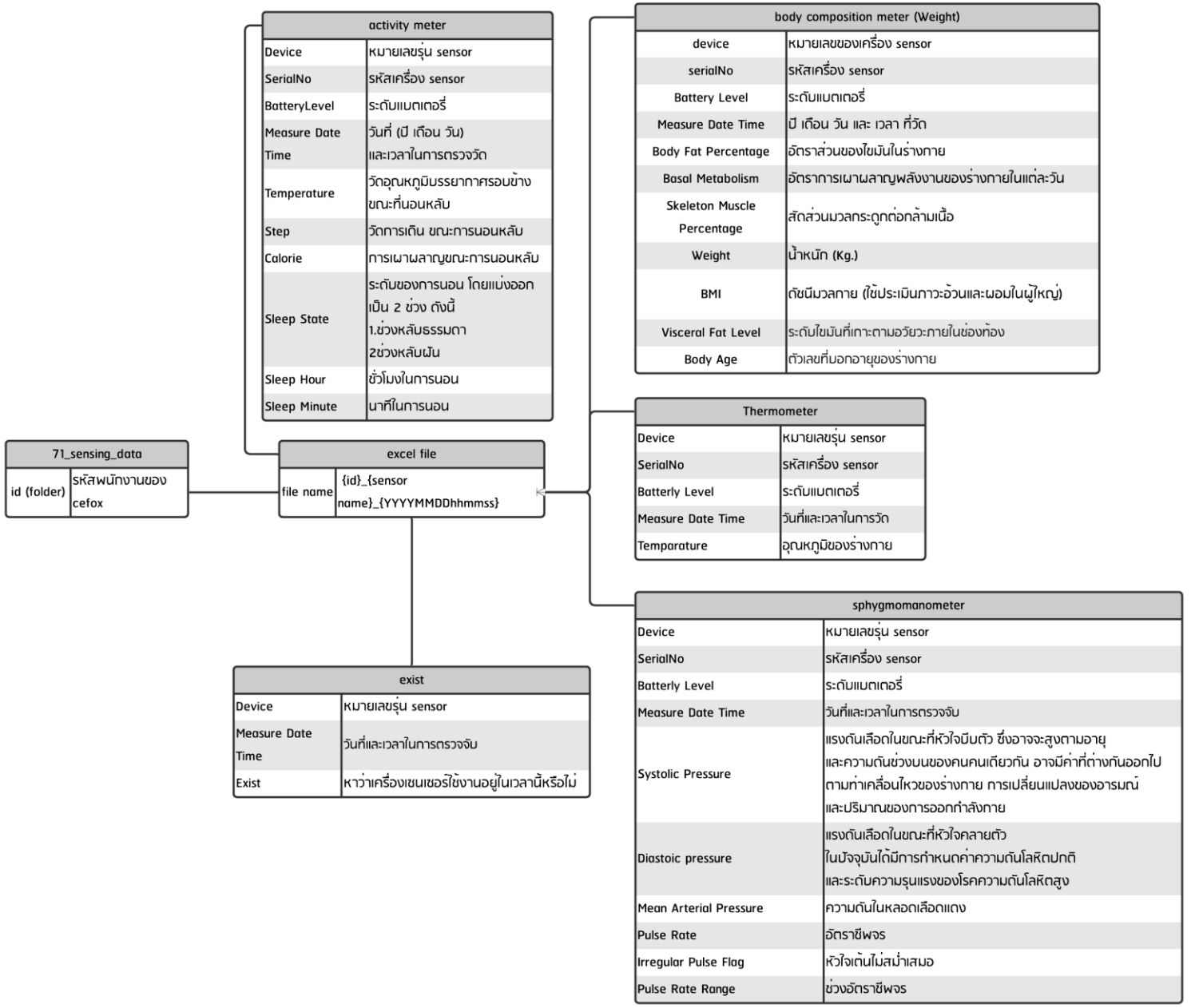


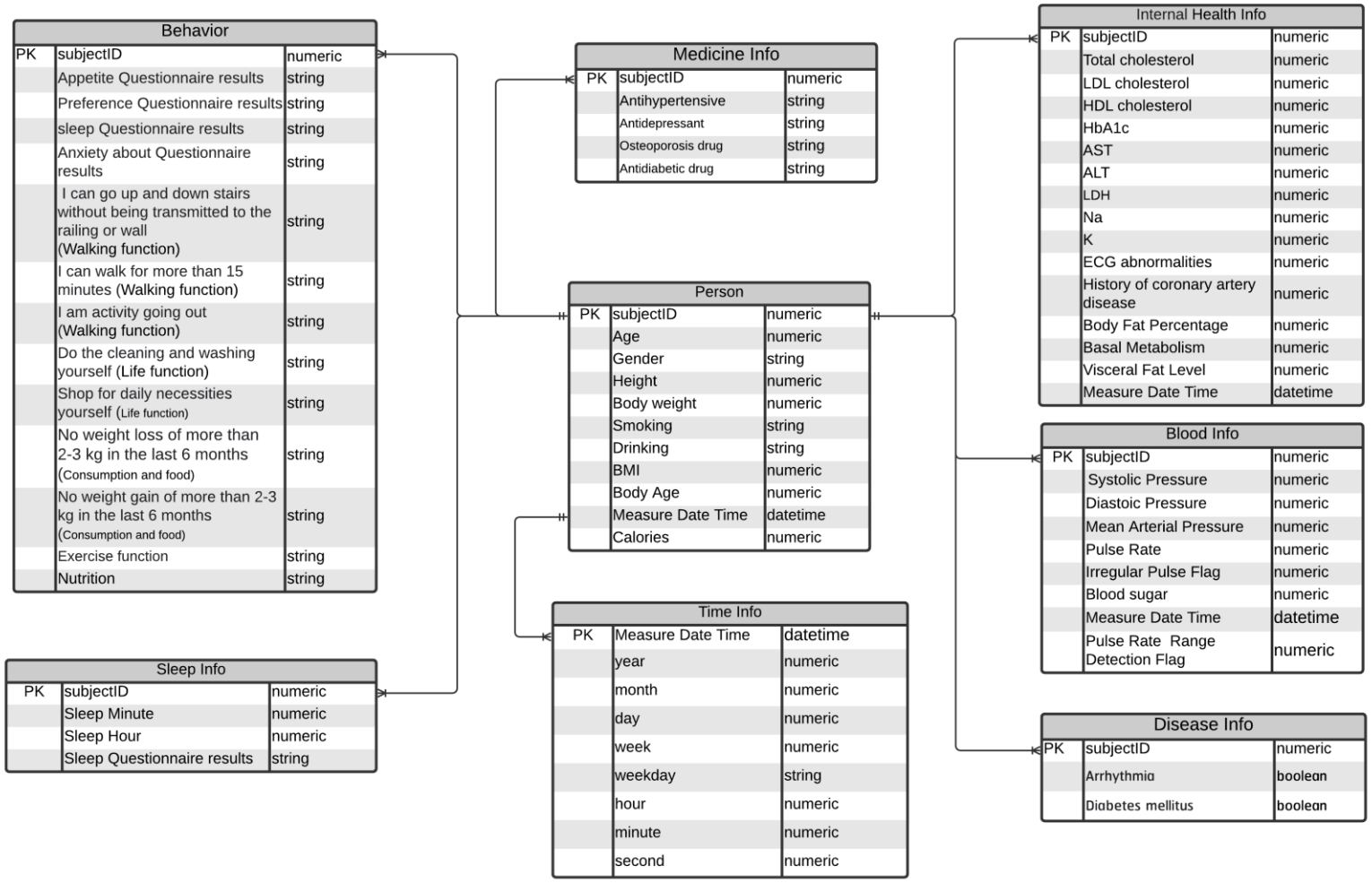




Overview Metadata of Sensei Data

Overview Metadata of 71_sensing_data




Behavior
PK subjectID numeric
Appetite Questionnaire results string
Preference Questionnaire results string
sleep Questionnaire results string
Anxiety about Questionnaire results string
I can go up and down stairs without being transmitted to the railing or wall (Walking function) string
I can walk for more than 15 minutes (Walking function) string
I am activity going out (Walking function) string
Do the cleaning and washing yourself (Life function) string
Shop for daily necessities yourself (Life function) string
No weight loss of more than 2-3 kg in the last 6 months (Consumption and food) string
No weight gain of more than 2-3 kg in the last 6 months (Consumption and food) string
Exercise function string
Nutrition string
Medicine Info
PK subjectID numeric
Antihypertensive string
Antidepressant string
Osteoporosis drug string
Antidiabetic drug string
Person
PK subjectID numeric
Age numeric
Gender string
Height numeric
Body weight numeric
Smoking string
Drinking string
BMI numeric
Body Age numeric
Measure Date Time datetime
Calories numeric
Time Info
PK Measure Date Time datetime
year numeric
month numeric
day numeric
week numeric
weekday string
hour numeric
minute numeric
second numeric
Sleep Info
PK subjectID numeric
Sleep Minute numeric
Sleep Hour numeric
Sleep Questionnaire results string
Internal Health Info
PK subjectID numeric
Total cholesterol numeric
LDL cholesterol numeric
HDL cholesterol numeric
HbA1c numeric
AST numeric
ALT numeric
LDH numeric
Na numeric
K numeric
ECG abnormalities numeric
History of coronary artery disease numeric
Body Fat Percentage numeric
Basal Metabolism numeric
Visceral Fat Level numeric
Measure Date Time datetime
Blood Info
PK subjectID numeric
Systolic Pressure numeric
Diastoic Pressure numeric
Mean Arterial Pressure numeric
Pulse Rate numeric
Irregular Pulse Flag numeric
Blood sugar numeric
Measure Date Time datetime
Pulse Rate Range Detection Flag numeric
Disease Info
PK subjectID numeric
Arrhythmia boolean
Diabetes mellitus boolean

Data Model

Query Design

Heart disease risk
(Gauge)

Heart rate & Time
(Line graph)

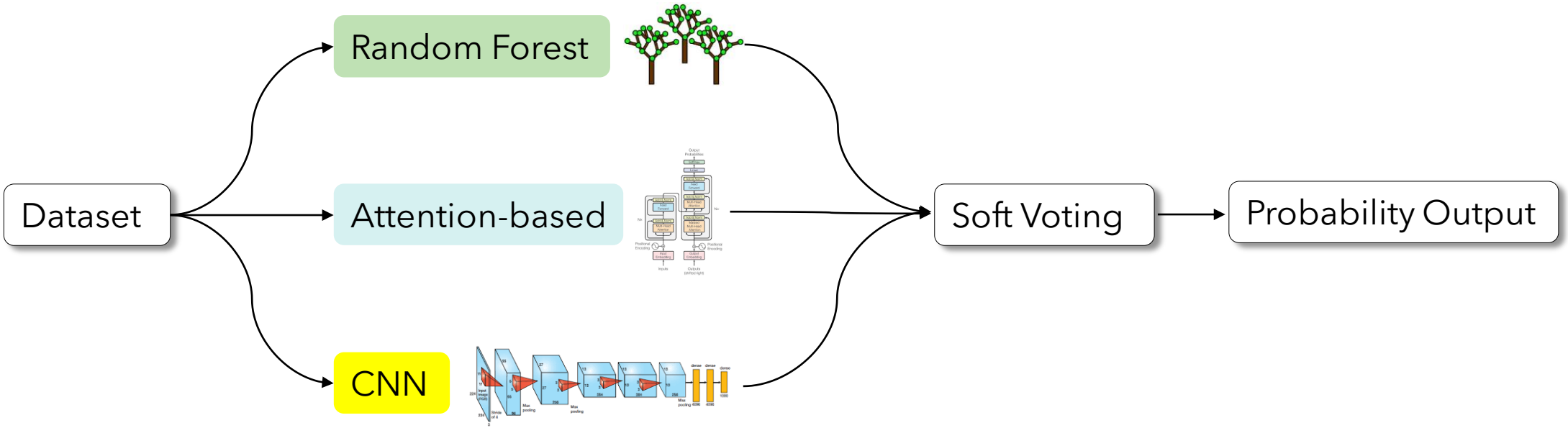
Sleep time & Weekday
(Bar graph)

Today total calories
(Donut chart)

Average blood pressure & Time
(Line graph)

Dashboard Design

Heart Disease Prediction using Machine Learning



Members & Responsibility

Ms.Natchariya Wongamnuayporn
(Kao)
61070507204

Mr.Natchapol Patamawisut
(Bank)
61070507205

Ms.Thanaporn Cheenthada
(Eye)
61070507209

Mr. Rungwigrai Payakkanuwat
(New)
61070507219

Mr. Prakasit Chaiphet
(Fuze)
61070507230

Responsibility
Kao : Secretary & Testing
Bank : Leader & Programming
Eye : Data Cleansing
New : Data Cleansing
Fuze : Programming

References

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- 22.pdf (acadpubl.eu)
- Information | Free Full-Text | Ensemble Deep Learning Models for Heart Disease Classification: A Case Study from Mexico (mdpi.com)
- Heart Disease - Automatic AdvEDA & FE & 20 models | Kaggle