**BLOCK DIAGRAM**

**FUSED MODEL**

**FUZZY LOGIC**

**ANN MODEL**

**SVM MODEL**

**DATA PREPROCESSING**

**DATA CLEANING**

**DATA ACQUISITION**

**Testing data**

**Trained SVM Model**

**Trained ANN Model**

**Training Data**

**Training Data**

**Cleaned Data**

**Original Dataset**

**OUTPUT**

**INPUT**

Fuzzifier

Fused Model

Disease Prediction

Membership Functions

Inference Engine

Defuzzifier

Validation

ANN Model

Error Calculation

Assign Weights & Loss

Bayesian Regularisation Function

Validation

SVM Model

Lagrangian Function with KTT Condition

Hyperplane Generation

Bayesian Regularisation Function

Testing Data

Training Data

Data Separation

Feature Engineering

Data Normalisation

Removing Outliers & Duplicates

Filling Missing Values

Diabetes & Heart Disease Dataset