

## **ICCS261 Proposal report term project**

### **Section 1: Topic and problem statement**

1.1 What is your project title?

- Early stage of developing a Diabetic classification

1.2 What is the major problem/research question that you seek to answer?

- What are the early signs and symptoms of Diabetic.

1.3 What is the rationale for the problems?

- On these days, not everyone has access to annual health checks at the hospital while the number of diabetic patients has been continually surging.
- By acknowledging early signs and symptoms of Diabetic allows people from every social class to prevent the disease at the beginning, which helps them reduce their future spends on healthcare due to its long asymptomatic phase and for their own overall well-being.

### **Section 2: Introduction and relevant literature**

Briefly describe the introduction and related literature reviews related to your topic

- Diabetes is a rapid life threat-ening disease that has long-term phases. There are more than 422 million patients worldwide (World Health Organization, 2018). Early diabetes detection would be useful for various people.
- The early diagnosis could be done through both common and less common sign symptoms that may occur at various stages, starting from the onset of the disease until its diagnosis.
- The literature review uses relevant variables used in previous diabetic classification studies.

### **Section 3: Describe your research design**

In this section, you need to describe a plan for how the research activities will be carried out, for example,

- Where is the source of data collection

Cvs file from kaggle that extracts from “Likelihood Prediction of Diabetes at Early Stage Using Data Mining Techniques” (Islam et al., 2020)

[https://www.researchgate.net/publication/335474089\\_Likelihood\\_Prediction\\_of\\_Diabetes\\_at\\_Early\\_Stage\\_Using\\_Data\\_Mining\\_Techniques](https://www.researchgate.net/publication/335474089_Likelihood_Prediction_of_Diabetes_at_Early_Stage_Using_Data_Mining_Techniques)

<https://www.kaggle.com/datasets/ishandutta/early-stage-diabetes-risk-prediction-dataset>

<https://www.kaggle.com/datasets/andrewmvd/early-diabetes-classification>

- What is the data about?

The direct questionnaires from the patients of Sylhet Diabetes Hospital in Sylhet, Bangladesh and approved by a doctor.

- Define variables in the data

Age, Sex, Polyuria, Polydipsia, Sudden weight loss, Weakness, Polyphagia, Genital thrush, visual blurring, Itching, Irritability, delayed healing, partial paresis, muscle stiffness, Alopecia, Obesity

- What will the method of analysis be used?

Using a statistical analysis to identify trends, patterns, and insight.

- What will a model be used?

Regression Models: analyze the relationship between a dependent variable and one or more independent variable

**Section 4: Expected outcome**

What are the benefits you expect from this study?

- People acknowledge and are well aware of the early symptoms of diabetics and prevent it from getting to the further phases. Hopefully, the number of patients would not get any larger!