CS434 Final Project Report (3-page limit)

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1 Feature formulation and preprocessing

1.1 Features

What are the features you feed to your learning algorithm? Did you simply flatten the 7 rows into a vector for features? Did you transform or aggregate the given data to engineer your own features?

We removed the time stamps, and only used the indicies for checking which instances where continuous. Additionally, we simplified the morning, afternoon, evening, night features into a single feature (i.e. 1 for morning, 2 for afternoon..., 0 if none). This left us with features for glucose, slope, IOB, MOB, and our custom version of the time of day. These we flattened into a single 35 feature vector.

1.2 Preprocessing

Did you pre-process your data in any way? This can be for the purpose of reducing dimension, or reducing noise, or balancing the class distribution. Be clear about what you exactly did. The criterion is to allow others to replicate your works.

2 Learning algorithms

2.1 Algorithms explored

Provide a list of learning algorithms that you explored for this project. For each algorithm, briefly justify your rationale for choosing this algorithm.

2.1.1 Decision Tree

2.1.2 Logistic Regression

2.1.3 Perceptron

2.2 Final models

What are the final models that produced your submitted test predictions?

3 Parameter Tuning and Model Selection

3.1 Parameter Tuning

What parameters did you tune for your models? How do you perform the parameter tuning?

3.2 Model selection

How did you decide which models to use to produce the final predictions? Do you use cross-validation or hold-out for model selection? When you split the data for validation, is it fully random or special consideration went into forming the folds? What criterion is used to select the models?

4 Results

Do you have any internal evaluation results you want to report?