

VitaWise - AI-based Healthcare Application

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Abstract

The main focus of the technical application of this study relies on a web and mobile based solution identified as VitaWise. The focus will be on tackling already some of the biggest challenges that we have right now when talking about e-health and personal health in general. The core idea of the application is to bring medics and health advice in everyone's home. The application can do that by not only using instant messaging, but also instant health checks using Machine Learning algorithms such as the Decision Forest Regression model trained in the cloud using Microsoft Azure Machine Learning Studio. The main algorithm used to train the model is the Decision Forest Regression algorithm. Decision trees are non-parametric models that perform a sequence of simple tests for each instance, traversing a binary tree data structure until a leaf node (decision) is reached. The data that we have used for training the model has been provided New York City Presbyterian Hospital through Kaggle platform and contains over 1000 entries from real patients. The subject was chosen for this research work following its complexity and potential of being useful in the real world. There are not that many e-health applications that you can just sign up and have access to great medical advice from experts in the field, as well as health tests from your home using Artificial Intelligence based on hospital information that we already have. This year proved to us that a lot of the things that we thought to be impossible online, were not only possible, but more efficient as well. VitaWise is designed to help medics communicate easier and faster with the patients, as well to help everyone that needs a quick advice or just wants to check on their health now and then.

Keywords: Machine Learning; Decision Regression Forest; Cross Platform Support; Artificial Intelligence