

# GDV technique and machine learning: Current research and results

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## Abstract

*Машинное обучение применяется для анализа GDV-снимков яблоневого листа и человеческих пальцев. Нас интересуют две гипотезы: 1. GDV-снимки листьев растений содержат в себе информацию о состоянии растений, 2. внешние факторы, как например, витализованная вода из специальных стаканов может влиять на биоэлектромагнитное поле человека. Мы провели четыре отдельных исследования: а) анализ снимков яблоневого листа, б) определение влияния стаканов K2000 на БЭМ поле человека, в) определение влияния сотовых телефонов на БЭМ поле человека и г) определение влияния энергетических шаров на БЭМ поле человека.*

## Analysis of apple leaves' coronas

Main motivation for the measurement of bioelectromagnetic (BEM) fields of leaves with Kirlian photography stemmed from three observations:

- (a) successful use of Kirlian photography for medical diagnostic purposes, especially as an early warning system for detecting changes in the state of an organism [1,3];
- (b) previous research proved that it is possible to detect and find useful information in BEM fields of seeds of plants as well as other non-human objects;
- (c) a method of acquiring information on the state of a plant would be very useful.

In cooperation with a team of scientists headed by Dr. Franco Weibel we carried out several experiments at FiBL Institute, Switzerland. After concluding that we can successfully measure apple leaves with the technique we developed, we proceeded with an experiment aimed at finding out whether these measurements can be of any value for assessing the state of a plant. For this experiment we picked 31 leaves from each of two trees of the same sort, of which one was in good and one in bad condition.

The analysis was performed using See5 program for generation of decision trees [5]. Resulting decision tree is presented in Figure 1. We achieved classification error of less than 6%, which clearly shows that recorded images of BEM fields of leaves contain useful information for assessing the state of the plant. The most important parameter for classification proved to be area per fragment deviation. We submitted the generated decision tree to a practical test. A few days after constructing it, we picked 4 more leaves from each of the two trees (8 samples in total). We recorded the BEM fields of these new leaves and used the

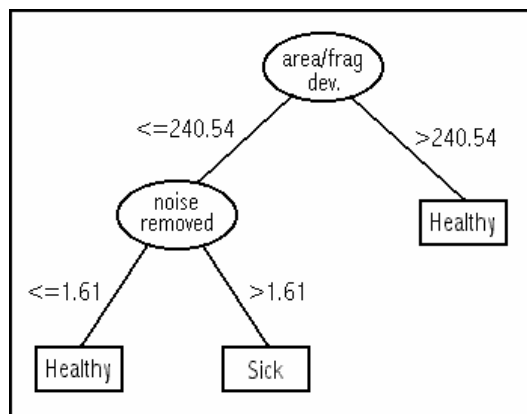


Figure 1: Decision tree for tree state problem

previously built decision tree to classify them as either sick or healthy. The classification accuracy was 100%; all 8 leaves were classified correctly. This test also somewhat voided the argument that images taken on different days are very dissimilar.

This was a preliminary study, with the difference of plant state clearly visible. Two further studies are in progress, one on apple leaves and fruits and one on leaves of various plants.

### **Analysis of influencing human bioelectromagnetic field by various objects**

We performed three studies in which we aimed to detect the effect of various objects on human bioelectromagnetic field. All studies conformed to the format of recording people before and after handling the object under observation. Each study had one or more control groups with the same protocols applied to them. Changes in parameters of recorded coronas were statistically analyzed.

First study dealt with the effect of mobile phones [2]. Three observation groups were formed: group T with 35 people wearing mobile phones without any protection or phones protected with a placebo protection, group S with 32 people wearing mobile phones and bioenergetic protections from two healers, Mrs Minnie Hein from Germany and Mr Milan Mladženović from Yugoslavia. The third group W was a control group with 17 people wearing no phones.

Student's t-tests between 3 pairs of groups on parameters relative area, area of sector 1R-4, area of sector 3R-6 and corona width (CW) indicated that:

- groups S and W were similar, no statistically significant differences were observed;
- group T had worse BEM than group W, significant difference in 1R-4 and 3R-6;
- group T had worse BEM than group S, significant difference in 1R-4 and 3R-6.

In two further studies we tested the effect of K2000 glasses and energized orbs on human BEM field. Both glasses and orbs are inventions of Slovenian innovator Mr Vili Poznik. In K2000 study [4] 34 people under observation were drinking tap water from K2000 and regular glasses. The results show statistically significant changes in all but one of the first 15 parameters calculated with GDV Analysis program. The study with energized orbs was a double blind experiment. Sixty people under observation, 20 in each group were holding either energized or regular orbs or nothing at all (control group) for 25 minutes. Results show statistically significant differences between the three groups in parameters area, area per fragment, relative area and CW.

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