



ЛАБОРАТОРИЯ ИНФОРМАЦИОННЫХ ТЕХНОЛОГИЙ

Четверг, 26 января 2017 г. в 15.00
ком. 310

1. Dr. McElory Hoffmann (University of Stellenbosch, South Africa)

Machine Learning for Africa

We discuss some real-world applications of machine learning in South Africa. The business problem is described, followed by a high level solution to the problem (using machine learning of course).

In order to implement these solutions, scalable infrastructure and software is needed. We discuss the most important components of the solution architecture and in particular also reference the use of the public cloud.

2. Greg Newman (University of Stellenbosch, South Africa)

Classifying cases of Rheumatic Heart Disease from sequences of ultrasound images using deep learning

The main diagnostic criteria for Rheumatic Heart Disease is primarily based on the morphology and movement of the mitral heart valve between RR intervals. In order to make a diagnosis a doctor must make use of echocardiography to view both the morphology and movement of the mitral valve. We show that by using basic preprocessing and deep learning, it is possible to determine this likelihood that a patient has Rheumatic Heart Disease based on both the movement and the morphology of the mitral heart valve despite problems such as noise, variable sequence length and different image resolutions.