

# 

# Predict endometriosis

Shani Cohen -313246662

Naor Dahan-308399393

## Dolev Hindi-312126642

GitHub: https://github.com/shani-co/-Deeplearning-Endo

### 08.02.2021

### —

### Deep learning and natural languages

### —

### **Dr. Amos Azaria**

**Introduction**

Endometriosis is a chronic disease that develops only in women.

The cause is genetic and the ability to diagnose the disease is terribly slow.

Lots of women suffer from different daily symptoms which do not always indicate the presence of the disease and therefore women are diagnosed at the age of 30+.

We build 3 systems that capable to identifying endometriosis by detecting its symptoms.

1. logistic regression.
2. Neural Networks with two hidden layers.
3. Our Neural Networks get addition of skip connection and Batch Normalization.

we defined two type of women in this Dataset. Half sick in endometriosis and Half are not.

We ran the three models on the same Dataset. We got a different results in each model and faced with different problems any time.

Therefore, there are conclusions for each model.



Dataset:

We created a data set with the help of 2 surveys, which were answered by different women.

**Data Set:**

Sick women (Label-1).

Unsick women (Label-0).

And 58 features (the symptoms are verity, and some are necessary for endometriosis)

We combined these two data sets into one and created a data set, that contain the women who answered the 2 different surveys with the same features (symptoms)

Total: 474 with label 1and 411 with label 0.

In all cases, I divided the data as 60% for the training and 40% for the testing.



