Varastegan Institute
for Medical Sciences

Evaluation of Four Artificial Intelligence –Assisted Self-Diagnosis Apps on Three Diagnoses: Two-Year Follow-Up Study

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Objective

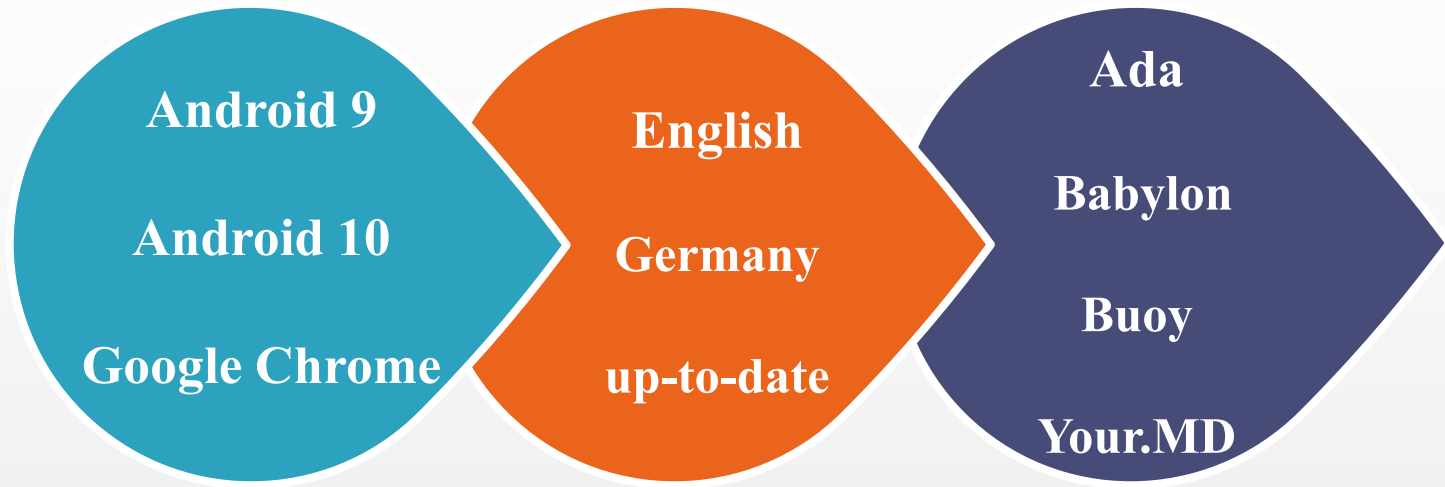# Introduction

✓ Algorithms and machine learning revolutionized

people's everyday life

✓ Self-diagnosis apps acceptance is curbed by trust

issues, strict regulations and lack of thorough

investigation

Methods

Android 9

Android 10

Google Chrome

English

Germany

up-to-date

Ada

Babylon

Buoy

Your.MD

Ada

- Berlin-based app

- e New Zealand market in 2016

- a chat bot to collect data

- selecting symptoms

Babylon

- It started out in 2013

- chat bot that presents the user

- recurrent neural networks

- selecting symptoms

Buoy Health

- Harvard Medical School since 2014

- 18,000 clinical papers

- does not use decision trees

- "dynamically picks"

Your.MD

- founded in 2012 in Oslo

- Chatbot

- multiple-choice questions

- Python

Results

Table 1. Testing of all four apps in three virtual patients with different diagnoses in 2018. Points awarded for diagnosis/treatment: (-)=0, (*)=0.5, (•)=1.
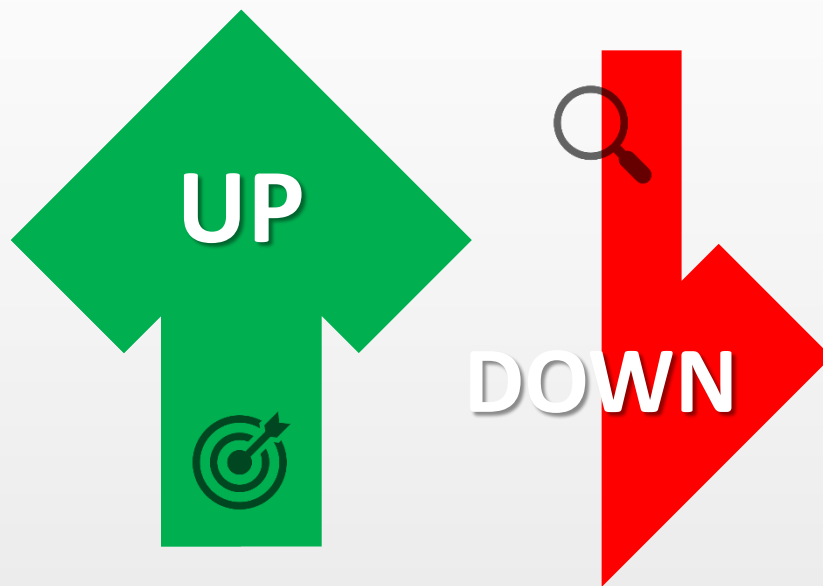
Diagnosis	Glaucoma	Retinal tear	Dry eyes
Ada	(•)/(•)	(•)/(•)	(•)/(-)
Babylon	(-)/(•)	(-)/(-)	(-)/(-)
Buoy	(-)/(•)	(-)/(-)	(-)/(*)
Your.MD	(•)/(•)	(•)/(•)	(•)/(•)

Table 2. Testing of all four apps in three virtual patients with different diagnoses in 2020. Points awarded for diagnosis/treatment: (-)=0, (*)=0.5, (•)=1.

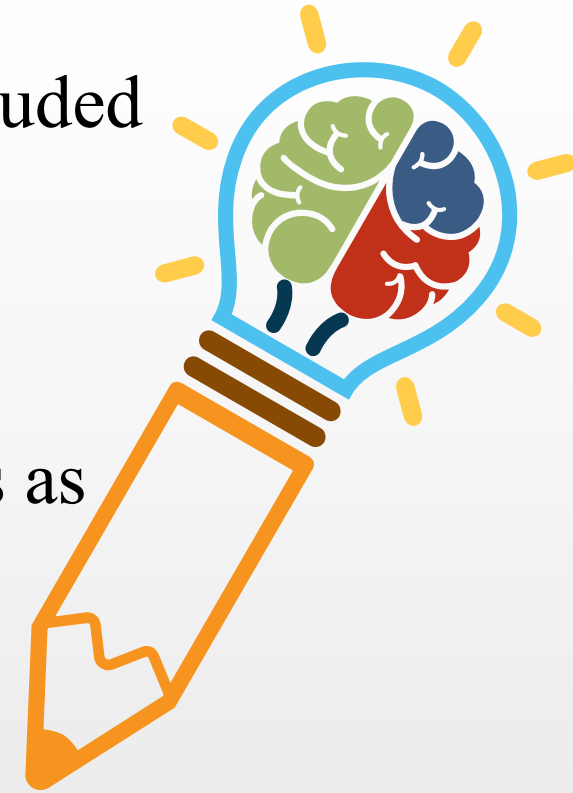| Diagnosis	Glaucoma	Retinal tear	Dry eyes
Ada	(-)/(-)	(•)/(•)	(•)/(*)
Babylon	(-)/(•)	(-)/(-)	(-)/(-)
Buoy	(-)/(-)	(-)/(•)	(-)/(*)
Your.MD	(•)/(•)	(-)/(•)	(*)/(-)

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fppt.com

Discussion

✓ . First, the cases that were entered included

information that seemed irrelevant

✓ Second, the evaluation of the results is as

subjective as entering the symptom

References

1. Willson M. Algorithms (and the) everyday. Inf Commun Soc 2016 Jun 20;20(1):137-150. [doi:10.1080/1369118X.2016.1200645]

2. Makridakis S. The forthcoming Artificial Intelligence (AI) revolution: Its impact on society and firms. Futures 2017Jun;90:46-60. [doi: 10.1016/j.futures.2017.03.006]

3. Aboueid S, Liu RH, Desta BN, Chaurasia A, Ebrahim S. The Use of Artificially Intelligent Self-Diagnosing Digital Platforms by the General Public: Scoping Review. JMIR Med Inform 2019 May 01;7(2):e13445 [FREE Full text] [doi: 10.2196/13445]

4. Ćirković A. AI in Self-Diagnosis - History, Theoretical Foundations, Potentials and Current Status. ResearchGate 2021:6-8

Preprint (forthcoming) [FREE Full text] [doi:10.13140/RG.2.2.33461.83684]

And 40 more…

That's it

Thank you for your time and attention!