

Breast cancer tests better with Google Health AI

4th January, 2020



Doctors have a new tool to use when diagnosing breast cancer. It is called Google Health, and of course comes from Google. The tool uses Artificial Intelligence (AI) to recognise anything abnormal in breast tissue.

Researchers trained the AI program to detect abnormalities. It read a huge number of results from X-rays over the past few years. X-rays are currently what doctors use to detect breast cancer. The Google Health program will help doctors in reading these X-rays more accurately. The current system is that two doctors agree on whether or not an X-ray shows cancer. If they cannot agree, they ask a third doctor. Google Health will make this diagnosis quicker.

Researchers from Google Health worked with experts from Imperial College London to design the AI program. They trained the program by inputting X-rays from more than 76,000 women in the U.K. and more than 15,000 in the USA into its software. The software then produced an algorithm. In hospital tests, the algorithm did better at reading X-rays than six doctors. Google Health spokesperson Dominic King said: "Our team is really proud of these research findings, which suggest that we are on our way to developing a tool that can help doctors spot breast cancer with greater accuracy." The World Cancer Research Fund said over two million new cases of breast cancer were reported in 2019.

Sources: bbc.com / nature.com / time.com

Writing

One day AI will replace doctors. What are the advantages and disadvantages of this?

Chat

Talk about these words from the article.

doctors / tool / breast cancer / cancer / X-rays / Artificial Intelligence / health / agree researchers / experts / program / software / hospital tests / proud / accuracy / cases

True / False

- a) The Google Health tool isn't actually from Google. T / F
- b) Researchers trained the Google Health tool using many X-rays. T / F
- c) People can use Google Health themselves to check their health. T / F
- d) Google Health will mean doctors can make a diagnosis more quickly. T / F
- e) More than 90,000 X-rays were used in developing Google health. T / F
- f) A Google health algorithm was less accurate than six doctors. T / F
- g) A spokesman said Google Health could help spot spots. T / F
- h) There were over three million new cases of breast cancer last year. T / F

Synonym Match

(The words in **bold** are from the news article.)

- | | |
|---------------------|-------------------|
| 1. tool | a. instances |
| 2. abnormal | b. conclusion |
| 3. detect | c. specialists |
| 4. currently | d. unusual |
| 5. diagnosis | e. representative |
| 6. experts | f. device |
| 7. spokesman | g. correctness |
| 8. proud | h. find |
| 9. accuracy | i. pleased |
| 10. cases | j. presently |

Discussion – Student A

- a) What do you think about what you read?
- b) Would you like to be a researcher?
- c) What do you know about algorithms?
- d) What are you proud of?
- e) What other tools should Google Health develop?
- f) Are you worried that better healthcare will increase overpopulation?
- g) In what other ways will Google improve our lives?
- h) What questions would you like to ask the researchers?

Phrase Match

- | | |
|--|----------------------------|
| 1. a new tool to use when diagnosing | a. they ask a third doctor |
| 2. recognise anything abnormal | b. the past few years |
| 3. results from X-rays over | c. an algorithm |
| 4. reading these X-rays more | d. breast cancer |
| 5. If they cannot agree, | e. to developing a tool |
| 6. Researchers from Google Health worked | f. cases of breast cancer |
| 7. The software then produced | g. with experts |
| 8. Our team | h. in breast tissue |
| 9. we are on our way | i. accurately |
| 10. over two million new | j. is really proud |

Discussion – Student B

- What do you know about breast cancer?
- What do you know about Artificial Intelligence?
- How important is technology in our healthcare?
- What do you think of X-rays?
- What do you think of Google being our next doctor?
- How healthy are you?
- Will technology cure us of everything in the future?
- What do you think of home computer software to cure us?

Spelling

- ginasonidg breast cancer
- recognise anything lanbamro in breast tissue
- use to dtctce breast cancer
- reading these X-rays more teryucaal
- The nrcreut system
- heerhwt or not an X-ray shows cancer
- espertx from Imperial College London
- design the AI rormpag
- tnuigitnp X-rays
- the gmrhioalt did better
- Our team is really prudo
- two million news ecssa of breast cancer

Answers – Synonym Match

1. f	2. d	3. h	4. j	5. b
6. c	7. e	8. i	9. g	10. a

Role Play

Role A – X-Ray

You think an X-ray machine is the most useful tool for a doctor. Tell the others three reasons why. Tell them why their tool isn't as useful. Also, tell the others which is the least useful of these (and why): stethoscope, first-aid kit or thermometer.

Role B – Stethoscope

You think a stethoscope is the most useful tool for a doctor. Tell the others three reasons why. Tell them why their tool isn't as useful. Also, tell the others which is the least useful of these (and why): X-ray machine, first-aid kit or thermometer.

Role C – First-Aid Kit

You think a first-aid kit is the most useful tool for a doctor. Tell the others three reasons why. Tell them why their tool isn't as useful. Also, tell the others which is the least useful of these (and why): stethoscope, X-ray machine or thermometer.

Role D – Thermometer

You think a thermometer is the most useful tool for a doctor. Tell the others three reasons why. Tell them why their tool isn't as useful. Also, tell the others which is the least useful of these (and why): stethoscope, first-aid kit or X-ray machine.

Speaking – Doctors' Tools

Rank these doctors' tools with your partner. Put the most useful at the top. Change partners often and share your rankings.

- | | |
|--------------------------|-----------------|
| • X-ray | • First-Aid Kit |
| • Stethoscope | • Syringe |
| • MRI scanner | • Thermometer |
| • Blood pressure checker | • Reflex hammer |

Answers – True False

a	F	b	T	c	F	d	T	e	T	f	F	g	F	h	F
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Answers to Phrase Match and Spelling are in the text.