Part 6
Lecture 2: Future of AI in Medicine

Who I am…

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The Big Companies and AI

- Microsoft signed on to a wide-ranging partnership with Novartis to help put AI tools on the desk of each of the drugmaker's research associates
  - Microsoft estimates that less than 5% of the world's AI professionals work in healthcare and non-profit organizations
  - They recently announced a five-year $40 million AI initiative to equip academia and non-profit research organizations for their research in global health challenges in hopes to tackle the uneven distribution of data science expertise

Google Health: Deep Neural Networks

- Google Health, which represents the first major new product area at Google since hardware, began to organize in 2018, and now numbers more than 500 people working under David Feinberg, who joined the company in early 2019
- Google's health efforts date back more than a decade to 2006, when it attempted to create a repository of health records and data
  - Failed!
- Google then spent several years developing artificial intelligence to analyze imaging scans and other patient documents and identify diseases with the intent of predicting outcomes and reducing costs
  - It also experimented with other ideas, like adding an option for people searching for medical information to talk to a doctor

IBM Watson and AI: Goals

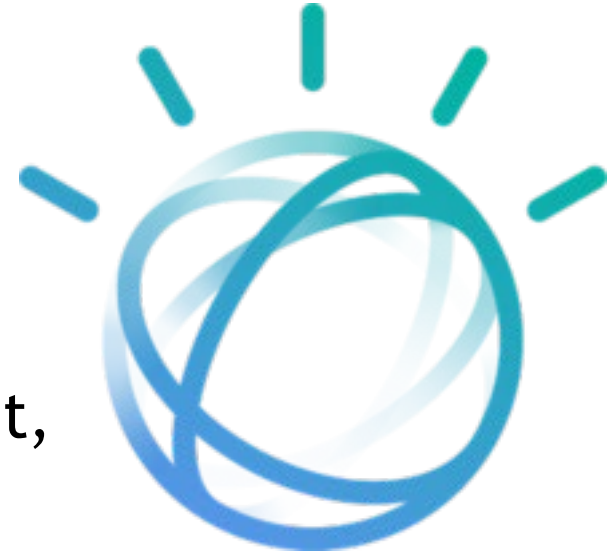
What IBM is doing:

- ❑ Make sense of overwhelming amount of clinical data, medical literature, and population and utilization data to inform decisions

- ❑ Providing contextual relevance, AI helps interpret billions of data points-both text and image data to identify contextually relevant information for individual patients

- ❑ Reducing errors related to human fatigue
  - ❑ Speed and accuracy

IBM Watson



- Watson is an efficient analytical engine that pulls many sources of data together in real-time, discovers an insight, and deciphers a degree of confidence
- Watson is a question answering computer running software called Deep QA, developed by IBM Research
- Watson runs on a cluster of Power 750™ computers, ten racks holding 90 servers, for a total of 2880 processor cores running DeepQA software and storage
- Watson was fed mountains of information including:
  - Text from commercial sources
  - Sources that allow open copying of their content

IBM Watson's History: Jeopardy!

- In 2011, Watson was only an early form of machine learning and natural language processing.
- The project was led by principal investigator David Ferrucci.
  - Watson was named after IBM's founder and first CEO, industrialist Thomas J. Watson

Who else is working on AI for health? Who is not...

Google, MicroSoft, and IBM are not the only tech giants working on new efforts centered around the health industry. Amazon, Apple, and Facebook have all ramped up efforts in recent years and have been building out their own teams

Startup Culture!

IBM Watson Health is now merative !

future tense

How IBM's Watson Went From the Future of Health Care to Sold Off for Parts

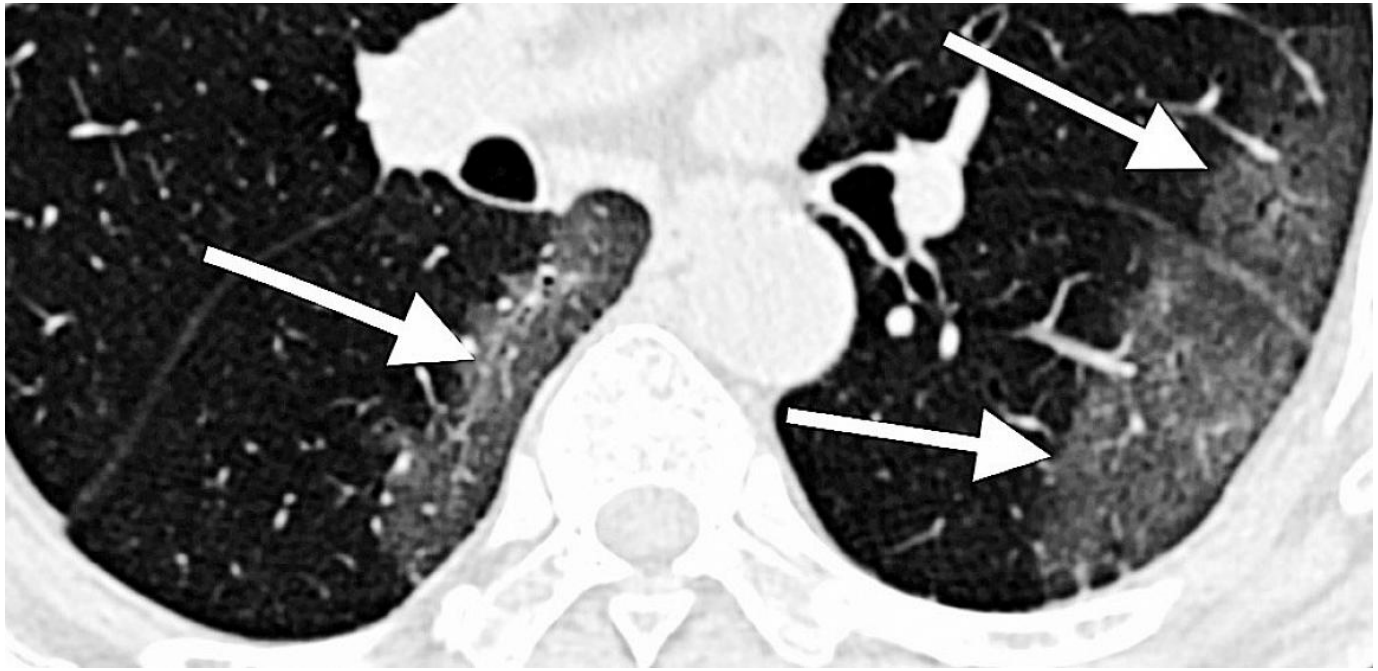
BY LIZZIE O'LEARY JAN 31, 2022 • 9:00 AM

Back in 2011, IBM thought Watson was its future. Sean Gallup/Getty Images

Launching Imaging AI Collaboration for COVID-19

RSNA® Radiological Society of North America

- The open-source imaging database will be hosted at the University of Chicago, and co-led by the American College of Radiology, the Radiological Society of North America and the American Association of Physicists in Medicine.



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Launching Imaging AI Collaboration for COVID-19

RSNA® Radiological Society of North America

- Initial focus on COVID-19, but has plans to expand its imaging data services and AI development to other diseases in the near future

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End of Lecture 2

Thank you for listening!