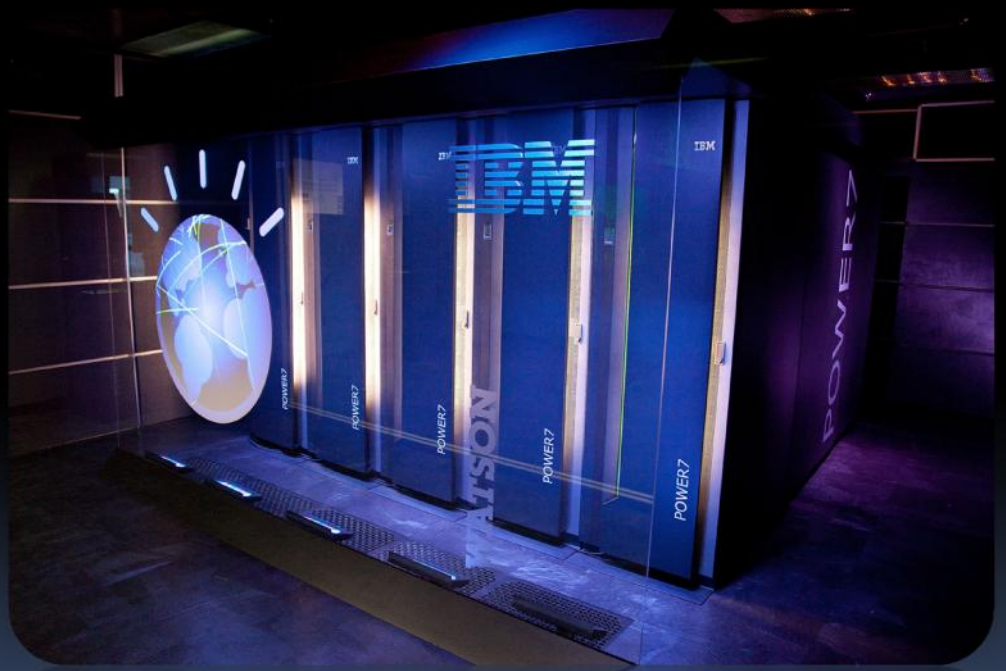
Welcome to CSC490:

Cognitive Computing Capstone

About the course

- Three months ago…



3.5 years ago…

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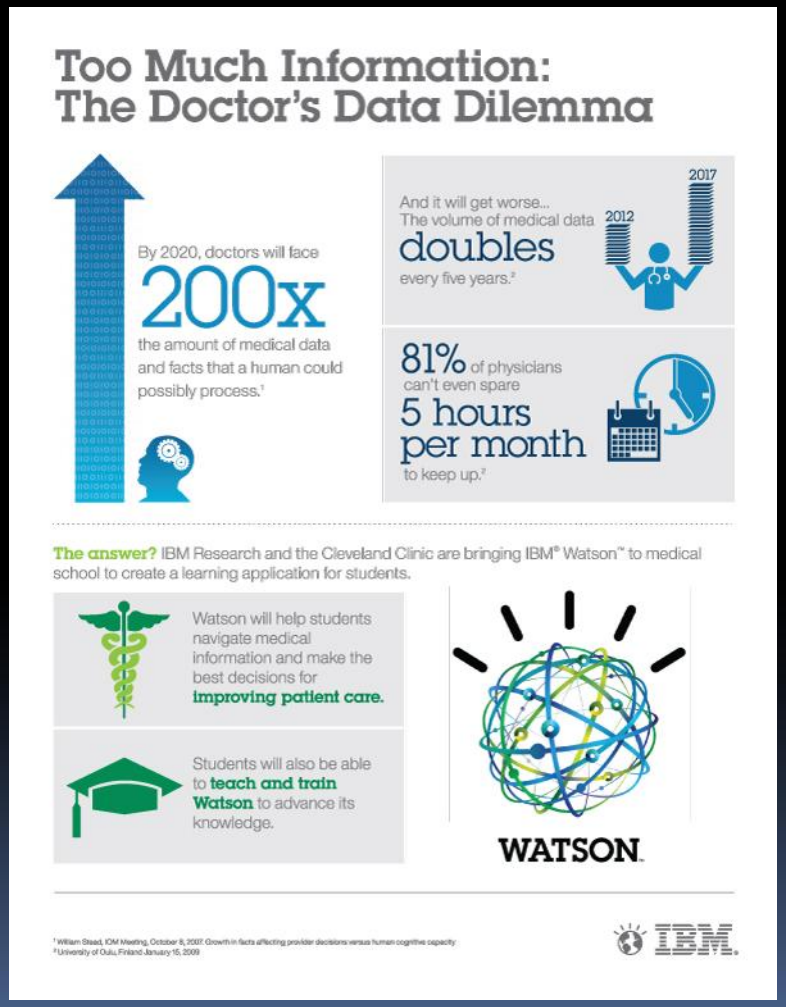
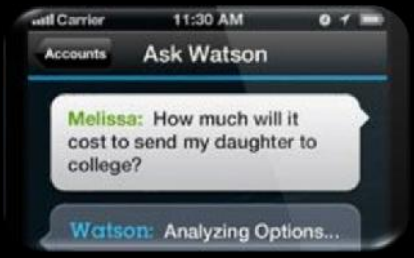
Watson today





Watson Today

- Watson Stats:
  - 2500 engaged innovators
  - $100 million equity investments
  - 500+ subject matter experts
  - 10 employees → 2,000

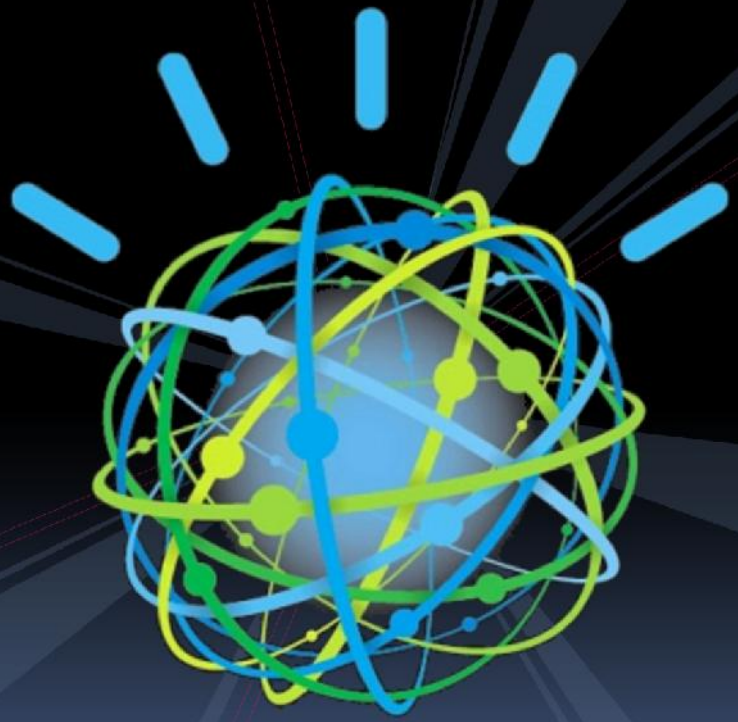
Higher education interests

- Student engagement
  - Build awareness (advocate cognitive computing)
  - Provide contests & speakers.
- Skill development
  - Build skills pipeline, future leaders
  - Provide awards, competitions, curriculum development, faculty materials, internships.
- Research

Watson Competition

- Officially, the "*Cognitive Computer Curriculum Competition*" → aka "4C".
- 10 schools participating:
  - CMU, Northwestern, NYU, OSU, RPI, Stanford, University of California Berkeley, University of Michigan, University of Texas Austin
  - …aaaaand the University of Toronto ☺

The Watson Competition



Cognitive Computing

- Systems that learn + unstructured data
- Processes:
  - Understand natural language
  - Generate and evaluate hypotheses
  - Adapt and learn (and repeat)
- Characteristics:
  - Understanding, engaging, learning/improving, discovery, trust, insight, timely.

How Watson works

- Training (Watson Experience Manager)
  - Document uploading
    - Supported files: `.txt`, `.html`, `.doc`, `.pdf`
  - Corpus creation
  - Domain expert training
- Question Answering
  - Submit question text to Watson's QAAPI
  - (instructions in Getting Started Guide)

Things to know about Watson

- Watson is a black box.
- Passage-style answers.
- Single corpus for the class.
- Internally consistent corpus documents.
- No structured data.

Watson competition

- Final competition: January 9, 2015
  - One team from each school
  - Held in 51 Astor Place (IBM New York office)
- Each school selects a single team
  - Competition based on both the team's product & business plan.
  - Panel is made of IBM execs and VCs.
  - See rubric for details.
- $100,000 award for winning team.

The Watson Course

Let's win us a contest.

- Course breakdown:
  - Crash course in Watson
    - Watson Hackathon (Experience Manager)
    - Corpus creation
  - Development milestones
    - Product Pitch
    - Project Design
    - Minimum Viable Product
    - Software Beta
    - Final Product
  - Project Showcase

How CSC490 works

- Meetings, not lectures.
- Industry mentors, advisors and speakers.
  - IBM special guests
- Agile production cycle
- Corpus domain?
  - Natural language data
  - Domain expertise needed
    - Keyword search insufficient
  - Easy (and free) access

Watson Hackathon Day

Corpus Training Boot Camp

- Saturday, Sept 13
- 10am – 2pm
- Learn how to:
  - Use the Watson Experience Manager to create and train a corpus.
  - Execute queries on the trained corpus.
- Meet at Digital Innovation Lab space, 2nd floor of Gerstein Library.
  - Pizza provided (let us know dietary restrictions)

What to prepare

- CanLII website: https://www.canlii.org/en/
- Corpus training:
  - Group 1: Criminal Code
  - Group 2: Income Tax Act
  - Group 3: Canada Labour Code
  - Group 4: Constitution Act
  - Group 5: Highway Traffic Act
  - Group 6: Family Law Act
- End goal: Use QAAPI to return answers to queries on your domain.