Augmented Reality, Conversational Interfaces, AI as a Service, Digital Twins and More

iNACOL 2018

Brandt Redd

http://BrandtRedd.org

Session Links:
https://brandtredd.org/inacol2018.html
https://inacolsymposium2018.zerista.com/event/member/515270

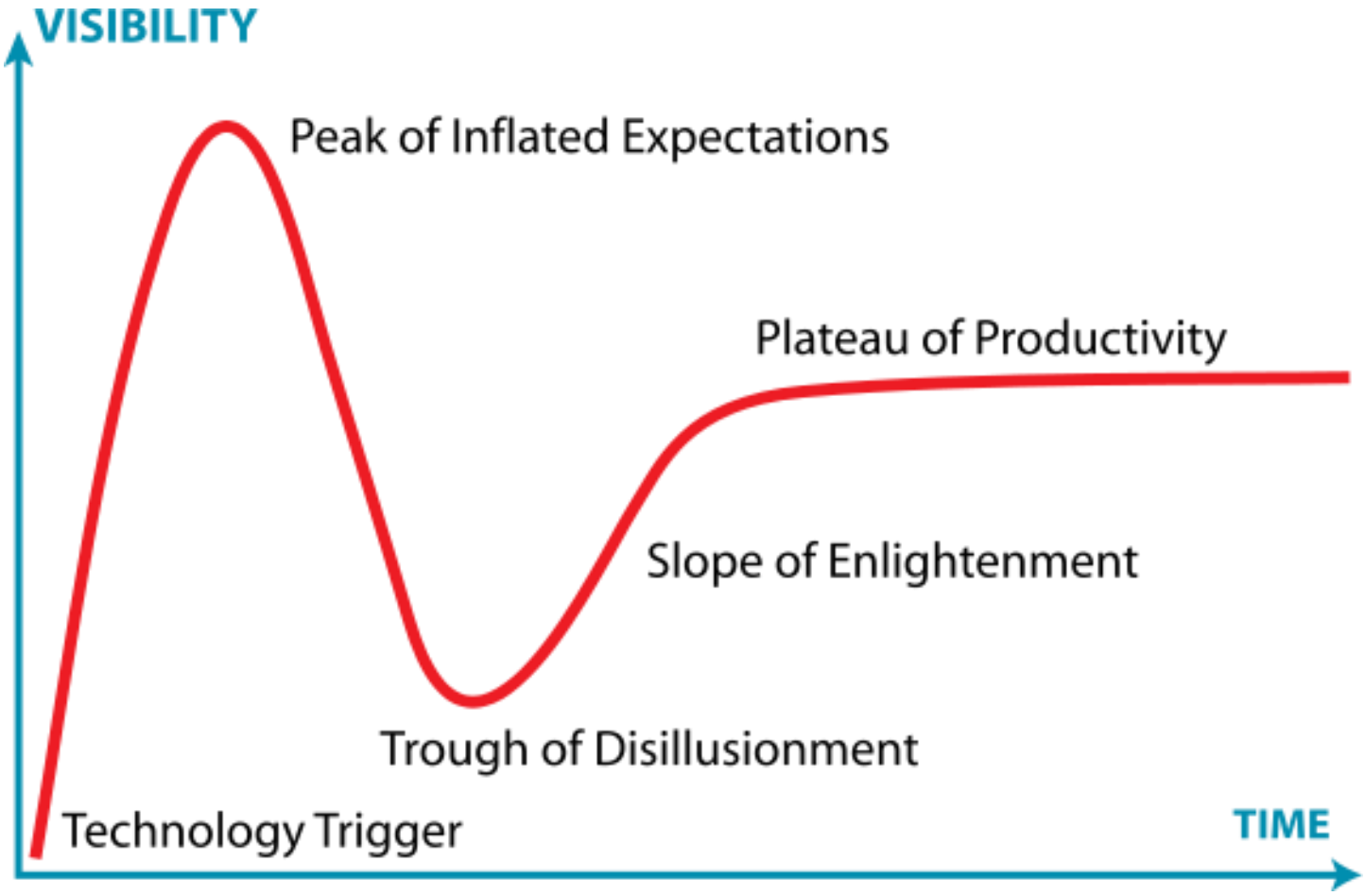
Learning Objectives

- Develop or increase understanding of at least two emerging technologies such as Augmented Reality, Conversational Interfaces, AI as a Service, Digital Twins, and others.
- Understand, through in-session discussion and debate, how one or more of these technologies will impact your own learning or teaching environment.
- Apply a strategy for researching emerging technologies and evaluating them in behalf of your learning institution.

Sources

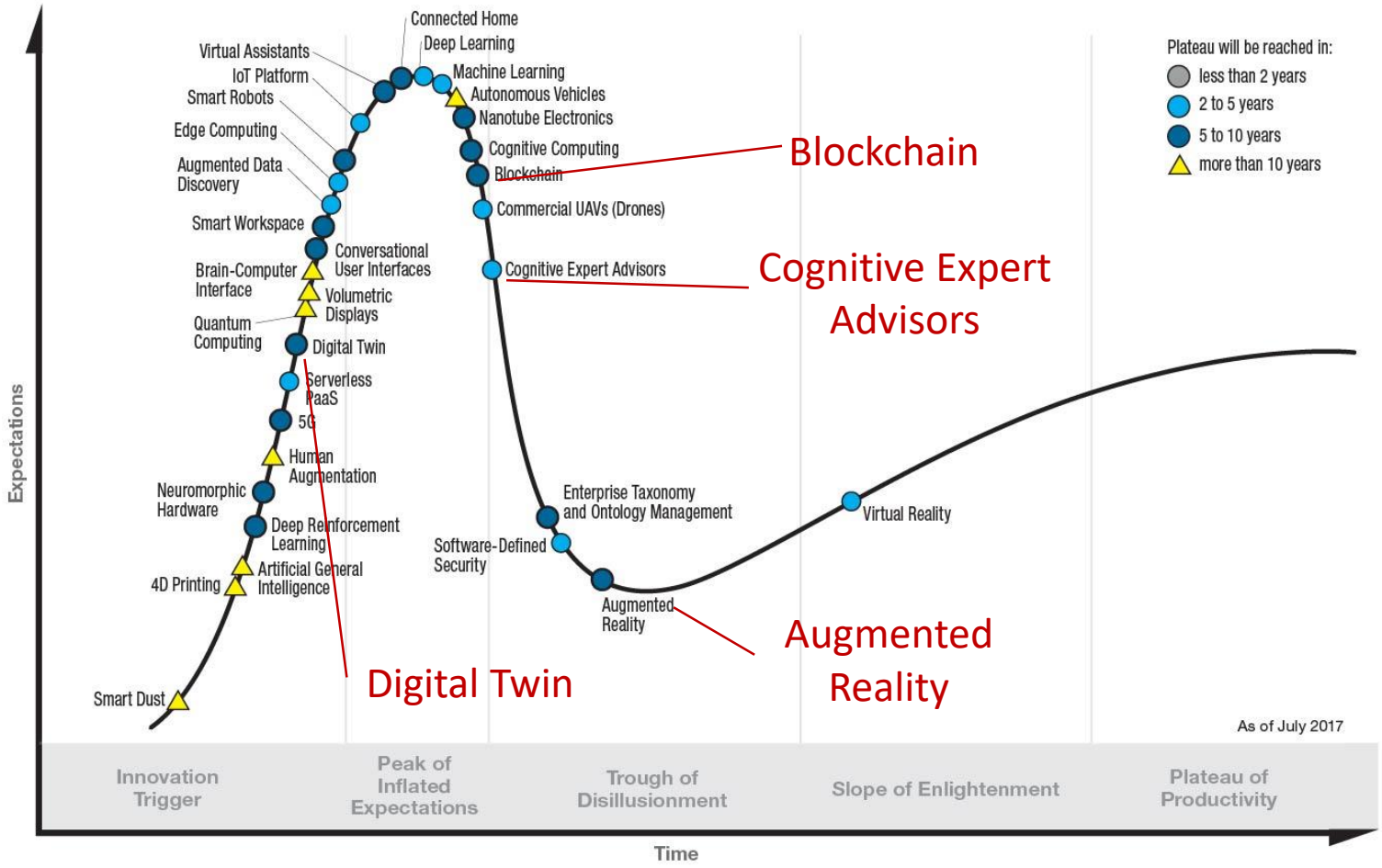
- Horizon Report (Formerly New Media Foundation, Now Educause)
  https://library.educause.edu/resources/2018/8/2018-nmc-horizon-report
- Gartner Top 10 Strategic Technology Trends for 2018
  https://www.gartner.com/smarterwithgartner/gartner-top-10-strategic-technology-trends-for-2018
- Forbes 7 Technology Trends That Will Dominate 2918
  https://www.forbes.com/sites/jaysondemers/2017/12/30/7-technology-trends-that-will-dominate-2018/#51c38b6d57d7

Technology Hype Cycle



Source: Wikipedia – Gartner Hype Cycle

Gartner Hype Cycle for Emerging Technologies, 2017



gartner.com/SmarterWithGartner

Source: Gartner (July 2017)

Gartner

Evaluating Technology

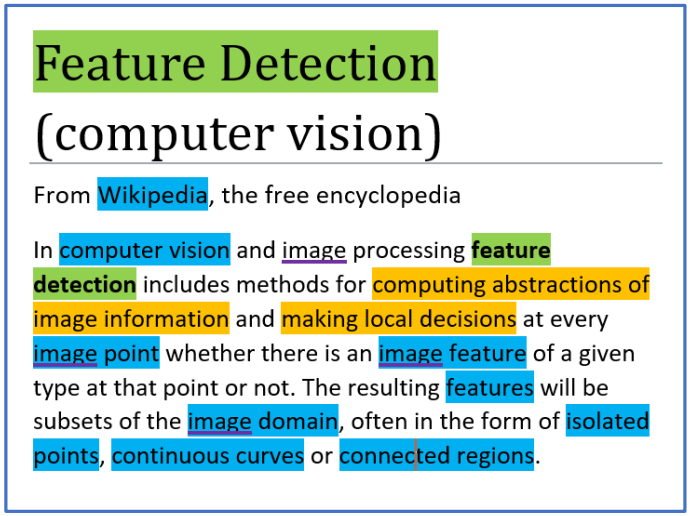
- Impact – must result in improved student learning.
  - Relevant
  - Realistic
  - Ready
- Carlos Moreno: “Unapologetically, Relentlessly, Student-Centered”

Agenda

- AI as a Service
- Conversational Interfaces
- Augmented Reality
- Digital Twins

AI As a Service

- Machine Learning
  - Voice Recognition
  - Assessment Scoring
  - Predictive Analytics
- Cognitive Computing
  - Image Recognition / Computer Vision
  - Natural Language Interpretation
  - Feature Recognition
  - Grammar and Content Analysis and Feedback
  - Assessment Composition
- Optimization Systems
  - Analyze large data sets
  - Detect sensitive features
  - Optimize for outcome
- Digital Assistants



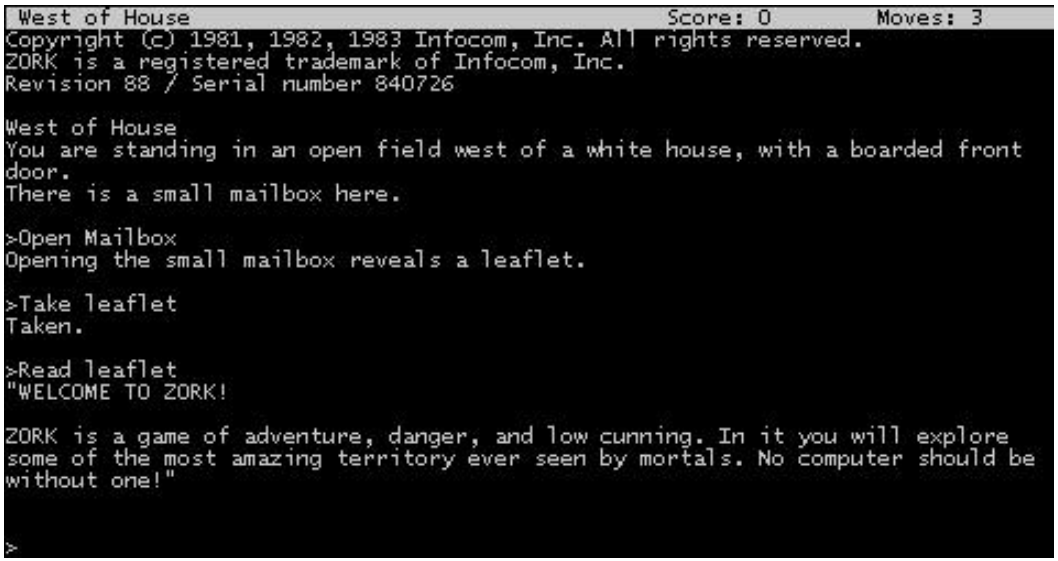
Feature Detection
(computer vision)

From Wikipedia, the free encyclopedia

In computer vision and image processing **feature detection** includes methods for computing abstractions of image information and making local decisions at every image point whether there is an image feature of a given type at that point or not. The resulting features will be subsets of the image domain, often in the form of isolated points, continuous curves or connected regions.

Conversational Interfaces

- Examples
  - Amazon Alexa
  - Apple Siri
  - Microsoft Cortana
  - “Hey Google”
  - WeChat Chatbots (China)
  - Zork
- In Education
  - Intelligent Tutoring Systems (ITS)



Augmented Reality

- We can also include virtual reality.
- Adding information or items to our view of the real world.

Digital Twins

- A digital representation of a real-world object.
- In education, a “student model” indicating what we know about a student’s competencies.
- Security and Privacy Implications

A Data View of Personalized Learning

- The intersection between data about students and data about content.
- “Personalized learning occurs at the intersection between data about students and data about content.
- To work, both must be aligned to standards.

Review

- Trend Watchers: Gartner, Forbes, CNet, EdWeek, etc.
- Rubric: Relevant, Realistic, Ready
- Theory of learning enhancement must *precede* theory of technology innovation.

Q&A

- Resources & References
  - https://brandtredd.org
  - https://brandtredd.org/inacol2018.html
  - https://inacolsymposium2018.zerista.com/event/member/515270
  - https://library.educause.edu/resources/2018/8/2018-nmc-horizon-report
  - https://www.gartner.com/smarterwithgartner/gartner-top-10-strategic-technology-trends-for-2018
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