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The KIT — Knowledge & Information Technology
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- Executive IT Seminars
- Cloud Computing
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- Technical Communities
- Knowledge Capture
- Taxonomy development
- Enterprise Social Media

Just Started: Microsoft Streaming its Research Faculty Summit

Microsoft is hosting an online event, "Faculty Summit 2017: The Edge of AI," featuring keynotes, presentations and panels centered around AI research. Panels include machine learning; human language technologies; perception and sensing; AI and society; systems, tools and platforms; integrative intelligence; cyber-physical systems and robotics; human/AI collaboration; and decision making. *The summit is being streamed on Monday July 17 and Tuesday July 18* from 7:30am PDT (10:30 am EDT, 14:30 GMT) to 6:00 pm PDT (9:00 pm EDT, 01:00 GMT).

Back Issues of the KIT

The archive of past KIT newsletters was redesigned a few months ago, and the links to back issues as well as summaries of the contents of each issue have been updated (thanks to our Stanford summer intern Dabiyyah Agbere).

The Technical and Social History of Software Engineering

Capers Jones, known since the 1970s for his work on programming methodology, has written an authoritative book on the history of software engineering.

After a "prehistory" of computing, Chapters 2--10 are organized by decade: 1930-1939, etc., until 2010-2019. This is a little contrived, as the phases in the evolution of software engineering do not cleanly align with the calendar on such regular intervals. Chapter 11, "Modern Software Problems," has only one main topic, "analysis of major software failures," which is definitely not just a modern problem. Chapter 12 is devoted to the defense against cyberattacks.

In spite of the slightly awkward structure, this book is likely to serve as a key reference. Current students (and young practitioners) of software development too often ignore the history of the discipline before the Web, Java and mobile devices. Anyone who cannot briefly describe the work of Ada Lovelace, Alan Turing or Grace Murray Hopper (or answers "who?" when hearing those names) should be forbidden to touch a keyboard until they have read a book like this.

IoT in Oil & Gas

At the last Offshore Technology Conference, Thomas Halsey of ExxonMobil said that the O&G industry "recognizes the potential of data science but that there is resistance to its acceptance and use." The same could be said of the entire Internet of Things approach. One reason is the industry's conservative attitude about technology adoption, another is the chasm between operational technology (OT) and IT, a third one is that connectivity is often limited on O&G installations, and a final one is the low level of investment due to the current depressed price of oil.

The IoT in Oil & Gas conference, Sep. 13-14 in Houston, will allow us to gauge the level of strategic thinking, as well as the reality of pilot projects being conducted. If you are a startup or small business, click here for a 15% discount.

Unhackable Communication Network?

It has been one of the claims of quantum computing-based communications since the start that they may render communication mode secure because, using a technique known as Quantum Key Distribution (QKD), any attempt to "wiretap" a connection fundamentally alters the nature of the information, letting the sender and recipient know that the connection is being tampered with.

China launched the first satellite for quantum optics experiments almost a year ago, and has now completed a successful trial of a completely secure communications network. The researchers say the network will mainly be used by large financial entities and the government. In parallel, institutions in Canada and Germany are also conducting related research.

Seen Recently...

"Award contracts to companies that solve problems, not ones that write a great proposal."

-- Shannon Sartin, writing about government procurement
(but she might as well be writing about corporate procurement)

"The complexity of cloud adoption requires a strong architectural leader that will take executive vision and oversee the entire cloud adoption process."

-- Kyle Hilgendorf, Gartner (who hopefully says somewhere that there should be an executive vision in the first place, and tells the architects to run away if there isn't)