Information Resources

Compiled by
Mr. H.R. Mohan
Editor, IEEE India Info – The Newsletter of IEEE India Council
ICT Consultant & Former AVP (Systems), The Hindu, Chennai
hrmohan.ieee@gmail.com

12 Low-Cost Cloud Security Practices with Big Payoffs: Good security takes effort. But it's not impossible — far from it. The key to achieving better security is to focus on embedding the right types of thinking early on. Make good security hygiene as natural as muscle memory. And before you start to worry about budget, take note: There are many low-cost, relatively easy measures you can take that will have a big impact on your organization's security posture. Full Post

Fail Hard: 15 Quotes on Failing to Succeed: Is it OK to fail? Most people believe that failure is something to be embarrassed about, or to sweep under the rug. But is there something about owning our failures that gives us the keys to succeed? Included below are 15 quotes from some of history's greatest known thinkers and leaders on why failure doesn't have to be as devastating as we think. Featuring quotes from Thomas Edison, Zig Ziglar, Randy Pausch, Maya Angelou, Winston Churchill, and more. Full Post

85 Essential Start-up Resources You Should Know About: These are the tools that we know, love, and wouldn't hesitate to recommend—many of them we use ourselves. Use them to propel your start-up into success and growth. Full List

Top Trends in the Gartner Hype Cycle for Emerging Technologies, 2017: Imagine a world where it is possible to implant a magnet that detects electrical current or utilize an exoskeleton to enhance strength. Now consider the potential abuses of requiring employees to have chip implants before they can work. Human augmentation has the potential to use technology to enhance bodies and minds, but also raises ethical and legal questions. Nevertheless, the technology would offer higher levels of performance from employees and offer businesses an edge. This technology is upwards of 10 years from mainstream adoption, but has the potential to create a multi-billion dollar human augmentation market. While human augmentation is just at the beginning of the innovation trigger phase of the Hype Cycle, complementary emerging technologies such as machine learning, blockchain, drones (commercial UAVs), software-defined security and brain-computer interfaces have moved significantly along the Hype Cycle since 2016. Full Story

Quantum Computing Explained with a Deck of Cards: At the MIT Venture Capital and Innovation Conference in February 2017, Dr. Dario Gil, Vice President of IBM Research, presented a simple overview of quantum computing and what kinds of problems it may be useful to solve. The key is that a quantum computer with N coupled quantum bits (qubits) has equivalent computing power to a classical computer with 2N parallel bits. For a quantum computer with large N (which does not yet exist), this exponential speedup could address a range of computational problems that are currently unsolvable, including decryption, quantum chemistry, and combinatorial optimization. Watch Dr. Gil's presentation.

The Future of Computing Depends on Making it Reversible: All current transistor logic gates dissipate significant amounts of power, so that extracting excess heat is becoming a major issue limiting computer performance. These gates are irreversible, both logically and physically; one cannot operate them in the reverse direction. However, there has long been academic interest in reversible computing, where the power dissipation can be orders of magnitude smaller. Now that conventional electronics may be approaching limits, research in reversible computing is being revived in a range of device technologies, by groups worldwide. In the September issue of IEEE Spectrum, Dr. Michael Frank of Sandia National Laboratory reviewed the field of reversible computing, which may provide a future way around current limitations in computing performance. Full Article

Microsoft is planning to phase out its famous graphics editing program, Paint, after 32 years: The app won't disappear all at once, and the Redmond company promised it will be available to download from the Microsoft Store, however support for it will end when the Windows 10 Fall Creators Update starts rolling out later this year. Story

Video: How Will We Solve Big Energy Challenges? 15m:07s: How will industry leaders, government officials, researchers, entrepreneurs - lift billions of people out of poverty - and continue to advance technological civilization? Jason Pontin, Editor-in-Chief and Publisher of MIT Technology Review delivers a striking message of collaboration from the Offshore Technology Conference Statoil Reception in Houston, Texas. Watch

The Industrial-Sized Potential Of The Internet Of Things: On an industrial scale, the Industrial Internet of Things (IIoT) can provide insights into customer behaviour, machine performance, and streamline tasks – ultimately raising efficiency, convenience and productivity while dramatically enhancing the quality of living and transforming the way we experience products and services around us.IIoT has the potential to transform emerging economies like India, especially as we start to see the average cost of sensors continue to drop, further driving the proliferation and development of connected devices. In fact, the Indian government envisions creating a market of $15 billion by 2020, increasing connected devices by more than 13-fold to 2.7 billion units by then, according to NASSCOM. Story

Immigrating to the U.S.? These Tech Services Say They Can Help: If you're thinking of moving to the United States, you might be concerned that now isn't a good time. The wall hasn't been built, but President Donald Trump has kept his promise to crack down on immigration into the country. Those measures come on top of what is already a maze of an entry system that politicians on both sides have long called broken. A crop of tech companies aim to ease these problems. They've developed software to make the process easier to navigate, promising to save users time or money versus working through a regular immigration attorney. "That type of technological development would greatly lower the cost, because right now it's generally regarded as the second-most complicated portion of American law after the income tax," said Alex Nowrasteh, an immigration policy analyst at the Cato Institute think tank. Here's a look at a few. Story

Self-Driving Buses and Robot Aides Could Double Singapore's Growth Rate: In technology-proficient Singapore, their integration into the economy could help the domestic growth rate to almost double and significantly lift labor productivity, according to a report by consultancy Accenture. It found that artificial intelligence, once fully adopted, might lift Singapore's annual growth rate to 5.4 percent in 18 years. That would be the largest increase among 33 countries studied and would translate into an additional $215 billion in gross value added. Without AI, the economy is predicted to expand 3.2 percent. Story

How artificial intelligence can deliver real value to companies: After decades of extravagant promises and frustrating disappointments, artificial intelligence (AI) is finally starting to deliver real-life benefits to early-adopting companies. Retailers on the digital frontier rely on AI-powered robots to run their warehouses—and even to automatically order stock when inventory runs low. Utilities use AI to forecast electricity demand. Automakers harness the technology in self-driving cars. In our survey, early AI adopters that combine strong digital capability with proactive strategies have higher profit margins and expect the performance gap with other firms to widen in the next three years. Story to download the 80 pages discussion paper on Artificial intelligence: The next digital frontier? visit

"Get Published" booklet: The primary method of communication between scholars remains the research article. Once an author's work earns the approval of their peers and gets published in a journal, it becomes part of the literature and contributes to a permanent record of human discovery. Publishing, therefore, is an extremely important part of a career in research. However, despite the importance of publishing, and aside from reading papers, for many people their first experience is when they have to sit down and write a paper. This booklet from Wiley is designed to provide some very basic tips for early career researchers - from choosing a journal to post-publication promotion. Booklet

Ethics and Engineering: A Matter of Trust: In the December 2015 issue of IEEE Technology and Society Magazine (IEEE T&S), 2015-2016 Society on Social Implications of Technology (SSIT) President Greg Adamson discusses Improving Our 'Engineering-Crazed' Image. Adamson opens his message with a mention of the recent VW environmental deception debacle, and the rift that such events create between the engineering community and the general public. "In addition to the anticipated financial impact on the company," Adamson writes, "it is a setback to the credibility of technologists, one that brings ethics to the fore." Adamson insists that, in situations such as these, an engineer's primary loyalty should be to public interest, and not his or her employer. Below, Adamson expands upon his IEEE T&S article, and discusses in more depth his opinions on engineering and ethics. https://goo.gl/nl71gN

Cool Engineering Projects: Engineers are working to change life for the better in ways that we can hardly even imagine. Check out some of the cool ideas they are bringing to life. The Hyperloop—Travel Faster than a Jet?; Human Exoskeleton—Freedom from Wheelchairs; The Makani Energy Kite—Generating energy at 1,200 feet; The HoloLens—Say Goodbye to Computer Screens; and Solar Sunflowers—Powering a House Near You. https://goo.gl/rQruqi

How Amazon Is Bringing IoT to Land, Sea, and Air: See how Amazon is investing and developing heavily in self-driving cars, drones, and remote control technology to connect their delivery chain. https://goo.gl/dzmTdV