Information Resources

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A Dozen Times Artificial Intelligence Startled The World: Generative Adversarial Networks (GANs) are some of the most fascinating ways to "teach" computers to do human tasks. We've always heard that competition can boost performance, but now GANs are taking "learning from Competition" to an industrial scale. Generative Adversarial Networks are defined by AI entities (Neural Networks) that compete with each other to get better at their respective tasks. This post highlights some of the coolest GAN applications in action. Full Post

38 Ways Drones Will Impact Society: From Fighting War To Forecasting Weather, UAVs Change Everything: UAVs are tackling everything from disease control to vacuuming up ocean waste to delivering pizza, and more. Drone technology has been used by defense organizations and tech-savvy consumers for quite some time. However, the benefits of this technology extends well beyond just these sectors. With the rising accessibility of drones, many of the most dangerous and high-paying jobs within the commercial sector are ripe for displacement by drone technology. The use cases for safe, cost-effective solutions range from data collection to delivery. And as autonomy and collision-avoidance technologies improve, so too will drones' ability to perform increasingly complex tasks. According to forecasts, the emerging global market for business services using drones is valued at over $127B. As more companies look to capitalize on these commercial opportunities, investment into the drone space continues to grow.A drone or a UAV (unmanned aerial vehicle) typically refers to a pilotless aircraft that operates through a combination of technologies, including computer vision, artificial intelligence, object avoidance tech, and others. But drones can also be ground or sea vehicles that operate autonomously.Below, check out the ways companies are harnessing drone technology for commercial purposes across industries. Full Post

The Future Of Data Centers: With over 175 zettabytes of data expected by 2025, data centers will continue to play a vital role in the ingestion, computation, storage, and management of information. Often hidden in plain sight, data centers are the backbone of our internet. They store, communicate, and transport the information we produce every single day. The more data we create, the more vital our data centers become. But many of today's data centers are clunky, inefficient, and outdated. To keep them running, data center operators, from FAMGA to colocation providers, are working on upgrading them to fit our ever-changing world. In this report, we take a deep dive into the many aspects of data centers and how they're evolving, from where and how they're built, to the energy they're using, to the hardware that operates inside them. Full Post

A Visual Summary: 32 Learning Theories Every Teacher Should Know: Learning theory–and the research that goes into it–is a topic seen frequently in universities and teaching programs, then less frequently after once teachers begin practicing in the classroom. Why this is true is complicated. (If you're teaching, you may have more pressing concerns than being able to define obscure learning theories which don't seem to have a place or role in what you're teaching tomorrow.) I thought it might be useful to have a brief overview of many of the most important learning theories teachers should know in a single graphic, which is why I was excited to find Richard Millwood's excellent graphic. Full Post

Looking Back at Google's Research Efforts in 2018: 2018 was an exciting year for Google's research teams, with our work advancing technology in many ways, including fundamental computer science research results and publications, the application of our research to emerging areas new to Google (such as healthcare and robotics), open source software contributions and strong collaborations with Google product teams, all aimed at providing useful tools and services. Below, we highlight just some of our efforts from 2018, and we look forward to what will come in the new year. Full Post

Kojo Yakei – Industrial Sightseeing after Dark: Do you think that 'industrial' isn't the most appropriate word for promoting a tourist destination? Are ammonia plants and oil refineries places you'd rather avoid on your holidays? Japan's urbanites used to go out of their way to avoid the country's sprawling petrochemical zones, but now they've been reinvented as tourist attractions due to their unique, otherworldly beauty. The 'kojo yakei' (meaning 'factory night view')

phenomenon kicked off a few years ago, and now tourists are signing up en masse for bus trips and boat cruises of Japan's industrial complexes, so they can admire the aesthetics of these chemical bakeries. Full Post

3D metal printing cheat sheet: Printers, print methods, materials, use cases: Advances in 3D metal printing technology that allow for micrometer-scale precision make the rapidly-maturing field compelling for a wide variety of industries. Businesses in various sectors increasingly rely on additive manufacturing technology for rapid prototyping, as well as production-ready parts and reducing warehousing overhead with just-in-time order fulfillment. Likewise, materials costs can be reduced with additive manufacturing, as the amount of waste produced is less.This Tech Republic's cheat sheet about 3D metal printing is an introduction to the additive manufacturing technology. Full Post

27 Amazing Data Science Books Every Data Scientist Should Read: Learning Data Science on your own can be a very daunting task! There are numerous ways to learn today – MOOCs, workshops, degrees, diplomas, articles, and so on. But putting them in a structure and focusing on a structured path to become a data scientist is of paramount importance. But there are hundreds of books out there about data science. How do you choose where to start? Which books are ideal for learning a certain technique or domain? While there's no one-shoe-fits-all answer to this, the author of this post has done his best to cut down the list to these 27 books. Full Post

110 Best Science Fiction Movies of All Time: Cue the theremin, summon some extraterrestrials, and insert that social commentary: It's Rotten Tomatoes' list of the 110 best sci-fi movies of all time, ranked by adjusted Tomatometer from at least 40 reviews! Full List

Building an AI World: Report on National and Regional AI Strategies: In March 2017, the Government of Canada announced the launch of the Pan-Canadian AI Strategy. The first fully-funded strategy of its kind, Canada's AI strategy was followed by announcements of a variety of forms of AI strategies by 18 countries, including France, Mexico, the UAE, and China .Full Post

HQ 2.0: The Next-Generation Corporate Center: The corporate center in many companies is not what it used to be. It will change even more over the next five years. This change is not just a matter of the look and feel of the building. It concerns the size of headquarters (HQ), its location, its mix of talent, and its ways of working: everything to do with the role of leadership in your enterprise. As an executive or an aspiring functional leader, you have a once-in-a-lifetime opportunity — and frankly, an obligation — to rethink your function in order to better fit the needs of your business moving forward. Full Post

Embedding ethics in computer science curriculum Barbara Grosz has a fantasy that every time a computer scientist logs on to write an algorithm or build a system, a message will flash across the screen that asks, "Have you thought about the ethical implications of what you're doing?" Until that day arrives, Grosz, the Higgins Professor of Natural Sciences at the Harvard John A. Paulson School of Engineering and Applied Sciences (SEAS), is working to instill in the next generation of computer scientists a mindset that considers the societal impact of their work, and the ethical reasoning and communications skills to do so."Ethics permeates the design of almost every computer system or algorithm that's going out in the world," Grosz said. "We want to educate our students to think not only about what systems they could build, but whether they should build those systems and how they should design those systems." Full Post

Smart Farming: The Future of Agriculture: "Smart farming" is an emerging concept that refers to managing farms using technologies like IoT, robotics, drones and AI to increase the quantity and quality of products while optimizing the human labor required by production. Full Story

5G Radiation Dangers – 11 Reasons To Be Concerned: Like it or not we're rapidly moving into the world of 5G, or 5th generation cellular telecommunications. Why? Because the frequency bandwidths used currently by cell phones and similar technologies are becoming saturated. And also because we live in a world where people want more. 5G, and the Internet of Things (IoT) that goes with it, promises to give us more. But more what? The USA is currently leading the way on 5G. At the June 2016 press conference where the Federal Communications Commission's (FCC) head Tom Wheeler announced the opening up of low, mid and high spectrum's. There was no mention of health effects whatsoever. But the dangers are real. Full Story

The Third Law: The future of computing is analog: The history of computing can be divided into an Old Testament and a New Testament: before and after electronic digital computers and the codes they spawned proliferated across the earth. The Old Testament prophets, who delivered the underlying logic, included Thomas Hobbes and Gottfried Wilhelm Leibniz. The New Testament prophets included Alan Turing, John von Neumann, Claude Shannon, and Norbert Wiener. They delivered the machines. The next revolution in computing will be signaled by the rise of analog systems over which digital programming no longer has control. Full Post

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