Information Resources

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The history of machine learning: Today, machine learning powers tools such as self-driving cars, voice-activated assistants and social media feeds. However the ideas behind machine learning have a long history, and rely on maths from hundreds of years ago and the enormous developments in computing in the last 70 years. Full story at https://www.bbc.com/timelines/zypd97h

Getting started with Git and GitHub: the complete beginner's guide: Git and GitHub basics for the curious and completely confused (plus the easiest way to contribute to your first open source project ever!) http://bit.ly/2F3fb76

12 Industries Experts Say Millennials Are Killing — And Why They're Wrong: The perception of the millennial generation as exceptionally narcissistic, immature, and disengaged from society has fueled a thousand hot takes on the industries they're "killing." Here's what's really going on. Every few weeks, another story about the dreaded generation surfaces: millennials are killing casual dining; millennials are killing breakfast cereal; millennials are killing home ownership. Pundits aren't shy about diagnosing what's causing these deaths, either. Also known as Gen Y, millennials are often painted as screen addicts who can't eat a meal without sharing it on Instagram — which is why they won't sit down for a meal at Applebee's. They're commitment-phobes who balk at the idea of being tied down, and that's why home ownership rates are down. http://bit.ly/2RefuRd

What is computational storage?: Computational storage is an information technology (IT) architecture in which data is processed at the storage device level to reduce the amount of data that has to move between the storage plane and the compute plane. The lack of movement facilitates real-time data analysis and improves performance by reducing input/output bottlenecks. http://bit.ly/2F3fE9m

Ten big global challenges technology could solve: According to The MIT Review, the following are ten big global challenges technology could solve while none is easy, but all are incredibly important. Carbon sequestration, Grid-scale energy storage, Universal flu vaccine, Dementia treatment, Ocean clean-up, Energy-efficient desalination, Safe driverless car, Embodied AI, Earthquake prediction, Brain decoding. http://bit.ly/2XKl3JM

Governments are rushing to regulate the internet. Users could end up paying the price: For years, this libertarian thinking was the guiding philosophy of Silicon Valley as tech firms aggressively pushed back at any attempt to regulate them or control how people behaved online. Conveniently, this lack of regulation allowed them to build massive monopolies and make huge profits. Today, Silicon Valley is facing the backlash. Amid widespread concerns over fake news, influence campaigns, cybersecurity and the sharing of violent and extremist content, more and more countries are pushing to rein in big tech. https://cnn.it/2Wzo663

How to Be a Better Web Searcher: Secrets from Google Scientists: A 2016 report by Stanford University education researchers showed that most students are woefully unprepared to assess content they find on the web. For instance, the scientists found that 80 percent of students at U.S. universities are not able to determine if a given web site contains credible information. And it is not just students; many adults share these difficulties. http://bit.ly/2X98af4

Top 11 RPA tools: If you're ready to start welcoming robots into your workflow, here are 11 of the top RPA tools for streamlining your workflows and saving your users from the tedium of old software, as well as some open source projects to check out. http://bit.ly/2WwTa6x

AI Knowledge Map: How To Classify AI Technologies: This landscape is useful for people new to the space to grasp at-a-glance the complexity and depth of this topic, as well as for those more experienced to have a reference point and to create new conversations around specific technologies. http://bit.ly/2X1PMVu

What is Blockchain Technology?: Blockchain technology offers a way for untrusted parties to reach consensus on a common digital history. A common digital history is important because digital assets and transactions are in theory easily faked and/or duplicated. Blockchain technology solves this problem without using a trusted intermediary. This explainer will offer simple definitions and analogies for blockchain technology. It will also define Bitcoin, Bitcoin Cash, Ethereum, Litecoin, blockchain, and initial coin offerings. Along the way, we'll highlight promising use cases for blockchain technology. http://bit.ly/2KlqLyL

The Automation Playbook: The Automation Playbook is a useful source of information for all industries as you look for guidance in how to approach the Industrial Internet of Things (IIoT), new communication protocols, control implementation, safety, asset management, predictive maintenance, a mobile workforce, and so much more. It covers them in three chapters – Factory & Machine Automation, Batch Processing and Continuous Processing. http://bit.ly/2Zp4SlA (Simple registration is required to download this playbook)

No sleep, no sex, no life: tech workers in China's Silicon Valley face burnout before they reach 30: He is so focused on keeping his start-up alive that he can't sleep at night. She was asked in an interview if she would be willing to break up with her boyfriend for the job. A young couple want their own family but have no energy for sex after work. These are some of the struggles faced by the hundreds of thousands of young workers in China's tech industry like Yu Haoran, a 26-year-old computer science major, who in 2014 founded Jisuanke, a start-up in Beijing's hi-tech Zhongguancun district to teach kids coding. Yu has worked nights and weekends to grow his business from a 10-coder team to one with a 200 million yuan (US$29.8 million) valuation thanks to venture capital backing. But the personal price he pays is chronic insomnia, sometimes getting just two hours of sleep every night. http://bit.ly/2MJj878

Why your smartphone is causing you 'text neck' syndrome: Most of us hunch over our smartphone for at least two hours a day. This can effectively increase the weight of your head by up to 27kg, damage your posture, and if you text while walking, expose you to all kinds of accidents. Typically people crane their neck forward 45 degrees when sending text messages. This places a weight of almost 22kg on the spine, cervical ligaments and other muscles – five times the pressure considered normal, according to a Surgical Technology International study. Over the course of a year, this amounts to an additional 1,000 to 1,400 hours of pressure on the average smartphone user's spine. http://bit.ly/2ML7W9Z

32 Statistical Concepts Explained in Simple English (a series in 11parts); This resource is part of a series on specific topics related to data science: regression, clustering, neural networks, deep learning, decision trees, ensembles, correlation, Python, R, Tensorflow, SVM, data reduction, feature selection, experimental design, cross-validation, model fitting, and many more. Part 11 at http://bit.ly/2X4uvul (Links to the rest 10 parts are at the end of the post)

Facial Recognition: 16 Industries The Tech Could Transform; From screening patients for clinical trials to assessing the emotional state of drivers, we dive in to how facial recognition technology is shaping the future. The biometric software behind facial recognition applications can identify facial structures, contours, and expressions, making it a no-brainer for security and identification purposes. But it can also lead to creative applications that serve a different purpose. Listerine, for example, created an app that uses facial recognition to notify people who are blind that they were being smiled at. While the technology is still developing, many companies (including Amazon) are banking on it as a disruptive force in a myriad of markets. At the same time, the tech is highly controversial — with privacy as a point of concern. From creating checkout-free retail stores to eliminating concert tickets, here are 16 industries that are starting to transform with facial recognition technology. http://bit.ly/2wPCjRP

Web 3.0: the decentralised web promises to make the internet free again: Have you recently considered deleting your Facebook account, boycotting Amazon or trying to find an alternative to Google? You wouldn't be alone. The tech giants are invading our privacy, misusing our data, strangling economic growth and helping governments spy on us. Yet because these few companies own so many of the internet's key services, it seems there is little people can do to avoid having to interact with them if they want to stay online. However, 30 years after the world wide web was created, a third generation of web technology might offer a way to change things. The DWeb, a new decentralised version of cyberspace, promises to enable better user control, more competition between internet firms and less dominance by the large corporations. But there are still serious questions over whether it's possible – or even desirable. http://bit.ly/2XHZ3yT

100 common Windows 10 problems and how to solve them: Now that Windows 10 has overtaken Windows 7 as the most popular operating system, it's bigger than ever. The sequel to Windows 8.1 has been out for more than three years now, and has given users plenty of time to figure it out. Luckily, most Windows 10 problems have been patched out by Microsoft over the last few years. There are still some security exploits and other bugbears that have either lingered or have been caused by recent Windows updates. This is in part because Windows 10 updates are still kind of a mess, the most recent of which, the October 2018 Update, caused all kinds of issues, including Blue Screen errors on Microsoft's own Surface devices. That could be why the adoption of that update is only now starting to take off, just in time for the next one. If all of these problems are any indication, Microsoft has a lot of work to do. Plus, there are still a lot of Windows 10 problems that are still around, like printer connectivity issues. But, who knows, maybe Microsoft will actually fix some of these problems in the Windows 10 May 2019 Update, which should be out soon. Still, if you're having a hard time with

the operating system, we've compiled a guide to 100 of the most common Windows 10 problems, and how to fix them – whether it's a Windows 10 problem with a printer or connectivity issues. So, if you're trying to troubleshoot your device, keep reading. http://bit.ly/2KeO4Ki

5G & The Future Of Connectivity: 20 Industries The Tech Could Transform: The next generation of wireless technology could affect a wide range of industries, from healthcare to financial services to retail. 5G is set to enhance connectivity across networks. This is especially important as the number of Internet of Things (IoT) devices rises, along with the amount of data they generate. The technology will enable faster data transfer speeds (from 4G's 1Gbps to 10Gbps). As a result, 5G creates tremendous opportunity for numerous industries, but also sets the stage for large-scale disruption. Major 5G network deployments are expected by 2020, and a projected 4.1B IoT cellular connections will use 5G worldwide by 2024, according to Ericsson. From enabling remote robotic surgery and widespread adoption of autonomous cars to improving crop and livestock management, 5G is poised to disrupt a plethora of the world's biggest industries. We dig in below. http://bit.ly/2WFQecG

The Rivers in Our Skies: In December 2016, meteorologist F. Martin Ralph was sitting in a restaurant in San Francisco. On the TV screen, the weather report was talking about a particular kind of weather formation called an atmospheric river, which was headed right for California. Atmospheric rivers are exactly what they sound like—rivers of water vapor, flowing through the atmosphere. They move from the tropics toward the continents and poles, stretching to as much as 375 miles wide and carrying more water than multiple Mississippi Rivers. When an atmospheric river meets mountainous terrain like the Sierra Nevada, the water vapor condenses and becomes rain or snow. Strong atmospheric rivers can bring about floods and landslides, but the water and snowpack they leave behind provide California with 25 to 50 percent of its yearly precipitation in just a few days. http://bit.ly/2X2D4G5

How much is your data worth?: If data are the new oil, then Google, Facebook, Amazon and other tech groups are, naturally, the biggest extractors. But nearly every kind of company is getting into the business, which is worth $76bn, and will be more than double that by 2022 — nearly $200bn. Think about that for a minute. Data are, for Big Tech companies and others that harvest it, the main business input — in fact, the only real input, aside from labour. Imagine if GM or Ford didn't have to pay for steel or rubber or widgets — think what their margins would be. That's the business model of surveillance capitalism. You aren't just the product, to be sold to advertisers. You are also the raw material to make the product used to sell you to advertisers. Yep, we are in the Matrix. Full report at http://bit.ly/2IBwEV4

How the Boeing 737 Max Disaster Looks to a Software Developer: Apparently the 737 Max pitched up a bit too much for comfort on power application as well as at already-high angles of attack. It violated that most ancient of aviation canons and probably violated the certification criteria of the U.S. Federal Aviation Administration. But instead of going back to the drawing board and getting the airframe hardware right (more on that below), Boeing relied on something called the "Maneuvering Characteristics Augmentation System," or MCAS. Boeing's solution to its hardware problem was software. http://bit.ly/2WDoQff

What Is Edge Computing?: The cloud is no longer sufficient to instantaneously process and analyze the troves of data generated — or soon to be generated — by IoT devices, connected cars, and other digital platforms. Enter edge computing. http://bit.ly/2Wz7POj

Shorter Walks, Better Shopping: How Airport Design Is Changing: A surge of air travelers is pushing airports to renovate and expand like never before — and many are going with modern designs that can accommodate revolutionary changes in technology. http://bit.ly/2XHtOEi

Industry 4.0 as an evolution, not a revolution: Industry 4.0 is the way forward for manufacturing enterprises looking to future-proof their businesses. Enterprises will accelerate adoption at scale and fully realize the benefits by understanding fundamental business needs and implementation stages as an evolution with increasing value add. This report explains the logical phases leaders should consider before embarking on their Industry 4.0 journey and help improve the current low rate of successful full scale adoption. https://infy.com/2X76VwN

How One Man's Legacy Could Help Rebuild Notre-Dame Cathedral: Following the devastating fire at Notre-Dame Cathedral in Paris, hundreds of millions of Euros have already been pledged to help facilitate its reconstruction. But while funding is crucial, technology may well hold the key to making an accurate restoration possible. This is where the late Doctor Andrew Tallon comes in. A pioneering art historian and father of four, Tallon sadly died on November 16, 2018, from cancer at the age of just 49. Though he is no longer with us, his work now appears more vital than ever. http://bit.ly/31q6u0d

Freedom on the Net 2018: The Rise of Digital Authoritarianism: Freedom on the Net is a comprehensive study of internet freedom in 65 countries around the globe, covering 87 percent of the world's internet users. It tracks improvements and declines in internet freedom conditions each year. The countries included in the study are selected to represent diverse

geographical regions and regime types. In-depth reports on each country can be found at www.freedomonthenet.org. http://bit.ly/2ReZf6v

OSINT (Open Source Intelligence) Tools and Resources Handbook; The handbook contains over 130 pages of recommended tools, technologies, apps, extensions, websites and other resources of value to research and intelligence professionals. Download the handbook from http://bit.ly/2X77mXX

Best cloud storage of 2019 online: free, paid and business options: Businesses and consumers are increasingly reliant on cloud based storage solutions instead of in-house, on-premise local storage hardware. Your files are stored in the cloud, which is a simplified view of what is essentially someone else's infrastructure (data center, server, hard drive, connectivity etc). Ever since Amazon popularised storage online with S3 (Simple Storage Service), 13 years ago, Google data shows that interest for "Cloud Storage" alone has increased by 40x over the past decade. So much so that people less frequently refer to it as "online storage". Given the multitude of cloud storage providers out there, one has to wisely choose a provider who will offer the maximum amount of low-cost storage and bandwidth, while still keeping your data safe. This list represents our top picks for cloud storage: most offer a free tier allowing you to see if they're right for you before handing over any hard-earned cash. Business users will need to consider carefully what their needs are as terms and conditions as well as quality of service is likely to differ significantly from their consumer alter ego. http://bit.ly/2ZlT03A

87 Revealing Job Interview Questions From Hiring Managers In Business And Tech: Maybe you're a hiring manager seeking better questions to plumb the depths of candidates' souls, or you're an interviewee wanting mock questions to be ready for anything in the job market. This list should help you sharpen your blade ahead of an interview. http://bit.ly/2ZlmTAZ

Leonardo da Vinci: 500 years after his death his genius shines as bright as ever: This year marks the 500th anniversary of Leonardo da Vinci's death. Widely considered one of the greatest polymaths in human history, Leonardo was an inventor, artist, musician, architect, engineer, anatomist, botanist, geologist, historian and cartographer. Full Post at http://bit.ly/2Rcnq5l Additional reading: Bibliography of articles on Leonardo da Vinci (currently 29 articles); Leonardo joined art with engineering; 8 things you may not know about Leonardo da Vinci, on the 500th anniversary of his death; Why Leonardo da Vinci was a genius; Leonardo da Vinci designed an ideal city that was centuries ahead of its time; Leonardo da Vinci revisited: was he an environmentalist ahead of his time?; How Leonardo da Vinci, 'Master of Water', explored the power and beauty of its flow; Leonardo da Vinci's helicopter: 15th-century flight of fancy led to modern aeronautics; Four ways in which Leonardo da Vinci was ahead of his time; How Leonardo da Vinci made a living from killing machines. http://bit.ly/2ICNnY5

Open Source Software: The Complete Wired Guide: When someone buys a new smartphone, often they're preoccupied with the camera specs or the size of the screen or its storage capabilities. It's easy to overlook one of the most foundational aspects of these sleek consumer gadgets: their operating systems. The world's most popular mobile operating system is Google's Android. It powers more than 86 percent of smartphones in the world. What's even more remarkable is that Android is based on the open source Linux operating system. That means anyone can view the code at the heart of the vast majority of smartphones, modify it, and, more important, share it with anyone else. This openness enables collaboration. Unlike, say, Microsoft Windows, which was developed and is maintained by a single company, Linux is developed and maintained by more than 15,000 programmers around the world. These programmers might work for companies that compete with each other, or they might volunteer to create something new that's then given away. For free. Gratis. Full guide at http://bit.ly/2F4afyv

Informatics as a Fundamental Discipline for the 21st Century: Informatics for all is a coalition whose aim is to establish informatics as a fundamental discipline to be taken by all students in school. Informatics should be seen as important as mathematics, the sciences, and the various languages. It should be recognized by all as a truly foundational discipline that plays a significant role in education for the 21st century. http://bit.ly/2ReZf6v

PC components explained: how to pick the best components for your PC: Even if you already know how to build a PC, finding the best PC components is always a test of endurance. Whether you're looking for the best graphics card, processor, motherboard or even RAM, it's always a lot of work. The market can get confusing, especially if you're new to the computing world, but we're here to help you get your planning and research started. So, we crafted a tutorial, to help you find the best PC components at the right price, so you can build the best PC without too much added stress. We'll help set you on the right path to finding the best PC components, as having a good idea of what you want can make building a PC so much easier. http://bit.ly/2WCaN4W

Talks to help you find the right job (11 videos): You want work that makes you feel happy, challenged — and appreciated. These talks might help you find that elusive combination, as you define your working life on your own terms. http://bit.ly/2RaoGpR

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