HUMAN

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| Written by Human | The Ming dynasty, which succeeded the Yuan (Mongol) dynasty (1206–1368), was founded by Zhu Yuanzhang. Zhu, who was of humble origins, later assumed the reign title of Hongwu. The Ming became one of the most stable but also one of the most autocratic of all Chinese dynasties.  China: The Ming dynasty  The basic governmental structure established by the Ming was continued by the subsequent Qing (Manchu) dynasty and lasted until the imperial institution was abolished in 1911/12. The civil service system was perfected during the Ming and then became stratified; almost all the top Ming officials entered the bureaucracy by passing a government examination. The Censorate (Yushitai), an office designed to investigate official misconduct and corruption, was made a separate organ of the government. Affairs in each province were handled by three agencies, each reporting to separate bureaus in the central government. The position of prime minister was abolished. Instead, the emperor took over personal control of the government, ruling with the assistance of the especially appointed Neige, or Grand Secretariat.  Basically, the Ming incorporated the Song dynasty’s policy of relying on the literati in managing state affairs. However, from the Yongle emperor onward, the emperors relied increasingly on trusted eunuchs to contain the literati. Also introduced at that time was a system of punishment by flogging with a stick in court, which was designed to humiliate civil officials—while also making use of them to realize the emperor’s aim of maintaining practical control of the state in his own hands. By decree of the emperor, a vast spying service was organized under three special agencies.  Great Wall of China  Struggles with peoples of various nationalities continued throughout the Ming period. Clashes with Mongols were nearly incessant. During the first decades of the dynasty, the Mongols were driven north to Outer Mongolia (present-day Mongolia), but the Ming could not claim a decisive victory. From then onward the Ming were generally able to maintain their northern border, though by the later stages of the dynasty it in effect only reached the line of the Great Wall. On the northeast, the Juchen (Chinese: Nüzhen, or Ruzhen), who rose in the northeast around the end of the 16th century, pressed the Ming army to withdraw successively southward, and eventually the Ming made the east end of the Great Wall their last line of defense. The Ming devoted considerable resources toward maintaining and strengthening the wall, especially near Beijing, the dynasty’s capital. |
| Written by Human | Roving reporter Ryan and Oxford historian Lydia took Nat Geo’s trusty time machine back to the first century C.E. to get the word on the via about life in the Roman Empire.  Here we speak to soldier Quintus Valerius Secundus, stationed in Britain at the Empire’s edge.  Heus! Tell us, Quintus, how is it that a soldier in the Roman army is all the way out in Britain?  Britannia, as we call it, is Rome’s newest province, at the western frontier of the Empire. My father was a soldier in the Roman military campaigns in Britain under the emperor Vespasian, and I decided to follow in his footsteps and enlist under his son, Emperor Domitian. We’re here at the Fort Vindolanda, a castrum in the north of Britannia and an important outpost in the fight against the native Britons.  My four brothers are also soldiers, stationed throughout the Empire. As the youngest, I am the lowest ranked at legionary, part of the infantry. My oldest brother Publius is a centurion, a junior officer, stationed in Gaul; my brother Septimus is an optio, or what you call a lieutenant, in Hispania; and finally my brother Titus has a very unique position. He is an imaginifer in Germania. His job is to bear the standard with the image of Emperor Domitian to remind all us soldiers where our true loyalty should lie.  What did you and your fellow soldiers bring with you to Britain?  We all have our weapons and armor, of course. I always carry my gladius, a short sword, and I have a pilum, which you would call a spear or a javelin. Then we have our galeae, suits of lorica segmentata, and scuta. While we are the best-equipped army in the world, here in Britain, we often have to wait weeks for replacement supplies to be sent to us.  Beyond what’s necessary for battle, we have few personal belongings. I have a small pen made of bronze, and I borrow wood tablets and ink from the other men to write letters often. Our days are not particularly full of action. I write many, many letters home.  To eat, we rarely get more than basic bread and cheese or puls, a grainy porridge. We sometimes have boiled meat with dinner, but lunch is a much quicker affair. My brothers who are officers in their legions—and therefore receive double or even triple the normal rate of pay—write to me that they actually dine quite well and have slaves to prepare their food. |
| Written by Human | Risk factors for COVID-19 appear to include:  Close contact with someone who has COVID-19, especially someone with symptoms.  Being coughed or sneezed on by an infected person.  Being near an infected person when in an indoor space with poor airflow.  Risk factors for serious COVID-19 illness  Some people are at a higher risk of serious COVID-19 illness than others. This includes people who are older, and the risk increases with age.  People with existing medical conditions also may have a higher risk of serious illness. This includes people who have:  Sickle cell disease or thalassemia.  Serious heart diseases, such as heart failure, coronary artery disease or cardiomyopathy, and possibly high blood pressure.  Chronic kidney, liver or lung diseases.  People with dementia or Alzheimer's are also at higher risk, as are people with brain and nervous system conditions such as stroke. Smoking increases the risk of serious COVID-19 illness. And people with body mass index in the overweight category or obese category may have an increased risk as well.  Other medical conditions that may increase the risk of serious illness from COVID-19 include:  Cancer. Type 1 or type 2 diabetes.  Weakened immune system from solid organ transplants or bone marrow transplants, some medicines, or HIV. Pregnancy. Down syndrome.  Substance use disorders. This list is not complete. Other medical conditions may increase your risk of serious illness from COVID-19. |
| Written by Human | Since the original 1997 LSTM paper [1], numerous theoretical and experimental works have been published on the subject of this type of an RNN, many of them reporting on the astounding results achieved across a wide variety of application domains where data is sequential. The impact of the LSTM network has been notable in language modeling, speech-to-text transcription, machine translation, and other applications [2]. Inspired by the impressive benchmarks reported in the literature, some readers in academic and industrial settings decide to learn about the Long Short-Term Memory network (henceforth, “the LSTM network”) in order to gauge its applicability to their own research or practical use-case. All major open source machine learning frameworks offer efficient, production-ready implementations of a number of RNN and LSTM network architectures. Naturally, some practitioners, even if new to the RNN/LSTM systems, take advantage of this access and cost-effectiveness and proceed straight to development and experimentation. Others seek to understand every aspect of the operation of this elegant and effective system in greater depth. The advantage of this lengthier path is that it affords an opportunity to build a certain degree of intuition that can prove beneficial during all phases of the process of incorporating an open source module to suit the needs of their research effort or a business application, preparing the dataset, troubleshooting, and tuning.  In a common scenario, this undertaking balloons into reading numerous papers, blog posts, and implementation guides in search of an “A through Z” understanding of the key principles and functions of the system, only to find out that, unfortunately, most of the resources leave one or more of the key questions about the basics unanswered. For example, the Recurrent Neural Network (RNN), which is the general class of a neural network that is the predecessor to and includes the LSTM network as a special case, is routinely simply stated without precedent, and unrolling is presented without justification. Moreover, the training equations are often omitted altogether, leaving the reader puzzled and searching for more resources, while having to reconcile disparate notation used therein. Even the most oft-cited and celebrated primers to date have fallen short of providing a comprehensive introduction. The combination of descriptions and colorful diagrams alone is not actionable, if the architecture description is incomplete, or if important components and formulas are absent, or if certain core concepts are left unexplained.  As of the timeframe of this writing, a single self-contained primer that provides a clear and concise explanation of the Vanilla LSTM computational cell with well-labeled and logically composed schematics that go hand-in-hand with the formulas is still lacking. The present work is motivated by the conviction that a unifying reference, conveying the basic theory underlying the RNN and the LSTM network, will benefit the Machine Learning (ML) community.  The present article is an attempt to fill in this gap, aiming to serve as the introductory text that the future students and practitioners of RNN and LSTM network can rely upon for learning all the basics pertaining to this rich system. With the emphasis on using a consistent and meaningful notation to explain the facts and the fundamentals (while removing mystery and dispelling the myths), this backgrounder is for those inquisitive researchers and practitioners who not only want to know “how”, but also to understand “why”.  We focus on the RNN first, because the LSTM network is a type of an RNN, and since the RNN is a simpler system, the intuition gained by analyzing the RNN applies to the LSTM network as well. Importantly, the canonical RNN equations, which we derive from differential equations, serve as the starting model that stipulates a perspicuous logical path toward ultimately arriving at the LSTM system architecture. |
| Written by Human | Also significant is the wide disparity in polling between himself and Florida Governor Ron DeSantis, a conservative firebrand some saw as Trump's heir apparent as he has flirted with his own bid for the presidency.  With the field divided, Trump stands to defeat DeSantis by double-digits under today's polling numbers. And if the election were held tomorrow, Trump currently stands to win his party's nomination by anywhere between 15 and 35 points based on current polling, leaving the rest of the field with significant ground to cover to be able to compete.  Joe Biden and Donald Trump's staggering reversal of fortunesREAD MOREJoe Biden and Donald Trump's staggering reversal of fortunes  The question now is whether Trump—who famously lost the popular vote twice in both of his previous campaigns—can manage to turn the tide against Biden after his 4-point defeat in the general election just over two years ago.  Even running against a historically unpopular president, polls today show the prospect of a Trump victory in 2024 is already a risky bet for Republicans.  One of the few pollsters to examine likely voters—the conservative pollster Rasmussen—has delivered Biden's best approval ratings to date in some of their recent polls, even as they predicted him to lose by near-double digits to either Trump or DeSantis in a 2024 matchup.  However, while Biden's disapproval rating sat at 56 percent in a recent Quinnipiac University poll of registered voters published on March 29, Trump's disapproval rating was actually two points higher, at 58 percent.  Most in that survey also said that looming criminal charges against the former president—including those recently filed by the Manhattan District Attorney's Office for alleged hush money payments he'd made to an adult film star during the 2016 election cycle—should disqualify him. And generally, most voters thought both candidates were more dishonest than honest. |
| Part included AI | As president, Suharto instituted a policy he called the New Order, relying on the help of American-educated economists to reinvigorate the Indonesian economy. Western investment and foreign aid were encouraged, and Indonesia’s domestic oil production was greatly expanded, with the resulting revenues used to fund infrastructure and development projects. By 1972 Suharto had succeeded in restoring steady economic growth while also reducing the annual rate of inflation from a high of 630 percent in 1966 to less than 9 percent. In foreign affairs, he pursued an anticommunist, pro-Western stance. Indonesia rejoined the United Nations (from which Sukarno had withdrawn it), and in 1967 it became a founding member of the Association of Southeast Asian Nations (ASEAN). In 1976 Indonesia forcibly annexed the Portuguese colony of East Timor despite widespread international disapproval.  Though he was careful to follow constitutional forms, Suharto’s government was basically an authoritarian regime based on the power of the military, which insinuated itself deeply into every branch of the government and the economy. As head of the armed forces and the government, Suharto maintained complete control of the country’s political life. His government-sponsored political party, Golkar, repeatedly scored landslide victories in elections to the People’s Consultative Assembly, and that body in turn reelected Suharto unopposed to the presidency in 1973, 1978, 1983, 1988, 1993, and 1998. Civil liberties were restricted, and little dissent was tolerated.  Get a Britannica Premium subscription and gain access to exclusive content.  During Suharto’s three decades in power, Indonesia’s economy grew an average of 7 percent annually, and living standards rose substantially for the bulk of the population. Education and mass literacy programs were used to propagate the national language, Bahasa Indonesia, and to unify the country’s disparate ethnic groups and scattered islands. The government also initiated one of Asia’s most successful family-planning programs in order to slow down the growth of Indonesia’s large population. These successes were increasingly marred, however, by the inequitable distribution of the nation’s expanding wealth, with relatively small urban elites and military circles receiving a disproportionately large share of the benefits of modernization and development. Suharto allowed his friends and his six children to assume control of key sectors of the economy and amass enormous fortunes by means of monopolies and lucrative trade arrangements. |
| Written by human | 2009, Adrian Helmsley (Chiwetel Ejiofor), an American geologist, visits astrophysicist Dr. Satnam Tsurutani (Jimi Mistry) in India and learns that neutrinos from a massive solar flare are causing the temperature of the Earth's core to increase rapidly. Adrian travels to Washington DC and gives a report on the findings to White House Chief of Staff Carl Anheuser (Oliver Platt) who takes Adrian to meet the President of the United States. In 2010, President Thomas Wilson (Danny Glover) and other international leaders begin a secret project to ensure humanity's survival. Approximately 400,000 people are chosen to board ships that are being constructed at Cho Ming, Tibet, in the Himalayas. At the same time as the People's Liberation Army are gathering volunteers, a Buddhist monk named Nima (Osric Chau) is evacuated while his brother Tenzin (Chin Han) joins the workers in the ship project. Additional funding for the project is raised by selling tickets to the private sector for one billion euros per person. By 2011, humanity's valuable treasures are moved to the Himalayas under the guise of protecting them from terrorist attacks with the help of art expert and First Daughter Dr. Laura Wilson (Thandie Newton). One of the artworks is the Mona Lisa, which is replaced in the Louvre with a precise copy. Her boss, Roland Picard (Patrick Bauchau) is later killed when his car is forced into a fatal auto accident in the same Paris underpass where Princess Diana was killed. Picard had discovered that the cave containing the vault where the Mona Lisa & other precious works of art were supposed to be stored was a fake location.  In 2012, Jackson Curtis (John Cusack) is a science fiction writer in Los Angeles who works part-time as a limousine driver for the Russian oligarch billionaire, Yuri Karpov (Zlatko Buri). Jackson's ex-wife, Kate (Amanda Peet) and their children Noah (Liam James) and Lilly (Morgan Lily) live with Kate's boyfriend, plastic surgeon Gordon Silberman (Thomas McCarthy). Jackson takes Noah and Lilly camping in Yellowstone National Park. After an encounter at a restricted government research site with Helmsley, they meet Charlie Frost (Woody Harrelson), who hosts a radio show from the park. Charlie, a conspiracy theorist, plays a video of Charles Hapgood's theory that polar shifts and the Mesoamerican Long Count Calendar predict that the 2012 phenomenon will occur. Hapgood believed that unstable conditions under the crust of the Earth would cause it to shift -- Earth crust displacement. Charlie has a map of the ark project in addition to conspiracy-theory information about officials and scientists from around the world who were murdered after planning to alert the public. One such scientist was a fan of Charlie's & had sent him the map before his untimely death. The family returns home as seismic activity vastly increases along the west coast of the United States. After dropping off Karpov's bratty sons at the airport, Jackson grows suspicious and rents a plane to rescue his family. He collects his family and Gordon as the Earth crust displacement begins, and they narrowly escape Los Angeles as the city slips into the Pacific Ocean, racked by a massive earthquake that destroys all of downtown. As millions die in catastrophic earthquakes worldwide, the group, with Gordon piloting the small plane, flies to Yellowstone to retrieve Charlie's map, escaping as the Yellowstone Caldera erupts. Charlie stays behind to broadcast the eruption and is killed in the blast of the expulsion of an ash cloud. Learning that the ships are in China, the group lands in a devastated Las Vegas to find a larger plane. |
| Written by human | The protagonist Sung Jin-Woo is an E-Rank Hunter who is exceptionally weak even for his low rank and bears the nickname World's Weakest Hunter. He's incompetent in even the lowest level dungeons and constantly finds himself getting injured, but persists to support his younger sister and sick mother.  One day Jin-Woo accompanies a group to clear a D-Rank Gate, something far above his power level but easy enough for ordinary Hunters to handle. Things go south when the party discovers a secret room filled with stone statues. They quickly realize they're out of their depth when the strongest Hunters in their party are killed with ease by the statues. Finding himself abandoned by his party moments before death Jin-Woo is given the chance to become a Player, he readily accepts his only alternative to death.  Waking up in the hospital, he finds himself physically unchanged but can access a HUD which gives him quests. Completing them provides Jin-Woo with various rewards that benefit him. Through these quests he discovers that he can level up, which strengthens his power, giving him the ability to infinitely grow stronger. But in order to get there, he'll need to start from the ground up.  Leveling up changes his entire physical appearance and improves his combat ability, allowing him to stand a chance against monsters and even killing a D-Rank boss on his own. Once he gains this power, he decides to join raid groups to get experience inside dungeons. Alongside another novice Hunter named Yoo Jin-Ho, he joins a small group of C-Rank Hunters, simply carrying their luggage. He discovers that the group intends to kill the two of them, but easily disposes of the group. Things grow increasingly complicated when it's discovered one of the Hunters killed was the brother of S-Rank Hunter Hwang Dong-Su.  Following their near-death experience, Jin-Woo and Jin-Ho meet again. Jin-Ho reveals his goal is to perform a set number of raids so he can become the guild master of his rich father's new guild. He offers Jin-Woo a generous amount of money, which he accepts on the condition that the two of them enter each dungeon alone.  While waiting for Jin-Ho to acquire dungeons for them to enter, he joined another raid composed of some members that abandoned him on that fateful day. They retain some guilt on the matter, but Jin-Woo holds no grudge. It turns out an assassin is among them. Hired to kill one of the party members, he decides to kill everyone in order to remove any witnesses but is foiled by Jin-Woo. After killing the assassin, Jin-Woo gains the ability to camouflage.  After clearing the dungeon, Jin-Woo receives a new quest to acquire a career. This leads to him entering a special dungeon where he gains the title of Necromancer after defeating the boos. With this ability, he can harvest the souls of enemies he's defeated and summon them to fight on his side. With this newfound ability, he acquires the soul of his first major shadow, Igris.  With his newfound power, he joins a guild raid on a seemingly normal Gate, only for it to transform into a high-rank Red Gate as soon as they enter. It throws them into a frozen wasteland with intelligent monsters who can communicate with them. The guild is decimated but ultimately saved by Jin-Woo, who learns through a conversation that monsters are compelled by a voice in their head to kill humans. After his encounter, Jin-Woo shifts his focus to a new S-Rank dungeon. Meanwhile, a man is found within a Gate and labeled as a monster by Hwang Dong-Su. It's revealed that this man is Jin-Woo's father, Il-Hwan and after making quick work of Dong-Su is shown to be incredibly powerful. |
| Written by human | The action began with nerves abound with both teams made a number of simple mistakes as they found their footing. Inter had an early scare in the 6th minute when Bernardo Silva found space in the corner of the box, but his effort whizzed by the far post. The Nerazzurri improved from there, however, and created a number of half-chances. City had the next clear-cut look on goal, though. Erling Haaland broke through Inter’s backline in the 27th minute but his effort was right at Andre Onana. That was the last major event of the half, as City continued to control possession, holding 62% of the ball, but lacking in the final third. Inter couldn’t take advantage of any of its counter-attacking opportunities either, and both teams ended the half with 4 shots a piece.  The second half continued in the same theme, but this time Inzaghi played his strongest card on the bench, bringing on Romele Lukaku ten minutes in. Inter almost got an immediate award through its other striker, as Lautaro picked up a loose Man City pass in the box, only for Ederson to close his angle down before he could make anything happen. That proved to be an unfortunately costly miss. Man City broke the deadlock in the 68th minute. A Silva cross found its way to the top of the box, where an unmarked Rodri blasted home.  Inter almost responded immediately through Federico Dimarco in the 71st minute. He sent a header off the crossbar with Ederson helpless, and directed the rebound goalwards, only for it to be blocked away by an unsuspecting Lukaku. Inzaghi made further attacking changes, introducing Gosens and Bellanova in place of Bastoni and Dimarco, but it also opened Inter up further defensively. Phil Foden almost took advantage, breaking through the Nerazzurri defense only for a full-stretch Onana to keep his attempt out in the 77th minute.  Inter pushed for an equalizer and came close in the 88th minute via a Lukaku header from the top of the six, but it was right at Ederson. The Nerazzurri continued to throw the kitchen sink at City, but it wasn’t enough. Ederson came up big again on the last play of the game, pawing away a Gosens header off a corner. And that was that. City 1, Inter 0. The Nerazzurri had their chances, tallying 1.81 expected goals vs City’s .94 and 14 shots vs 7, but a super showing from Ederson and one moment of distraction defensively cost Inter a 4th UCL. |
| Written by human | It seems the Man Utd manager rates Hojlund very highly as the deal is now on the verge of completion, with the Dutch tactician speaking directly to the player several times to win him round to his project.  Ten Hag supposedly loves Hojlund’s game and is convinced we’ve only seen a small part of the Danish youngster’s potential so far, which sounds very promising indeed.  Of course, some United fans will be cautious after seeing their club spend big on some top players in the past only to then see him fail to live up to their potential.  Still, Hojlund looks like he could be a good fit for Ten Hag’s style of football, and he’ll surely be in good hands with the Dutch tactician, who has so often shown his strength when it comes to working with young players. |

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| Include Part of AI | The Ming Dynasty was one of the most significant and influential dynasties in Chinese history, ruling from 1368 to 1644. It succeeded the Yuan Dynasty and preceded the Qing Dynasty. During its reign, China experienced notable cultural, economic, and political developments. Here's a brief history of the Ming Dynasty. The Ming Dynasty was founded by Emperor Zhu Yuanzhang, who was a former Buddhist monk and military leader during the final years of the Yuan Dynasty. He led a successful rebellion against the Mongol rulers and established the Ming Dynasty, taking the throne as Emperor Hongwu.  Emperor Hongwu worked to centralize power, reduce the influence of eunuchs, and establish an efficient bureaucracy. He also enacted land reforms to alleviate the suffering of the peasants and improve agriculture. Emperor Yongle, the third emperor of the Ming Dynasty, moved the capital to Beijing and constructed the impressive Forbidden City, which served as the imperial palace for almost 500 years.  Emperor Yongle was also known for his ambitious naval expeditions led by the famous admiral Zheng He. These voyages aimed to expand Chinese influence and establish diplomatic ties with other countries, demonstrating the power and wealth of the Ming Dynasty.  Under the Ming Dynasty, China experienced significant economic growth, with agricultural and commercial activities flourishing. The Grand Canal, a major waterway, was expanded and improved to facilitate trade and transportation.  The Ming Dynasty was a golden age of Chinese culture and arts. Notable achievements include the development of fine porcelain (Ming vases), stunning landscapes in Chinese painting, and the creation of Ming-style furniture and architecture. Despite its cultural achievements and economic prosperity, the later years of the Ming Dynasty were marred by corruption, internal strife, and military defeats. The dynasty faced external threats from the nomadic tribes of the north and the growing power of the Manchu people in the northeast. In 1644, the Ming Dynasty was overthrown by a peasant rebellion led by Li Zicheng. The last Ming emperor, Chongzhen, committed suicide in the face of the rebellion. Shortly afterward, the Manchu forces captured Beijing and established the Qing Dynasty.  The Ming Dynasty left a lasting legacy on Chinese culture and history, with its influence still evident in various aspects of modern Chinese society. Its achievements in art, architecture, and literature continue to be appreciated worldwide, making it a critical period in China's history. |
| Written by AI | After World War I, the Treaty of Versailles was signed in 1919, imposing harsh penalties on Germany. The treaty required Germany to accept responsibility for the war, pay reparations, reduce its military, and give up territory. The economic and political consequences of the treaty led to widespread discontent in Germany.In the early 1920s, Adolf Hitler emerged as a charismatic leader and joined the German Workers' Party, which later became known as the National Socialist German Workers' Party (NSDAP) or Nazi Party. Hitler's extreme nationalist and anti-Semitic views gained support, and he became the party's leader in 1921.In January 1933, Hitler was appointed Chancellor of Germany, and the Nazi Party quickly consolidated its power. The Reichstag Fire in February 1933 provided an opportunity for Hitler to curtail civil liberties and consolidate power further. After taking power, Hitler began an extensive rearmament program, violating the Treaty of Versailles. He also pursued a policy of territorial expansion, reclaiming territories with ethnic Germans (e.g., the Saarland and Austria). The annexation of Austria, known as the Anschluss, occurred in March 1938.  In September 1938, Hitler demanded that Czechoslovakia cede the Sudetenland, a region with a significant German-speaking population, to Germany. In the Munich Agreement, Britain and France agreed to this demand in the hope of appeasing Hitler and preventing war.  Despite the Munich Agreement, Hitler continued his expansionist policies. In March 1939, German forces occupied the rest of Czechoslovakia, breaking the agreement and further escalating tensions.  In August 1939, Germany and the Soviet Union signed the Molotov-Ribbentrop Pact, a non-aggression treaty. The agreement included secret protocols that outlined the division of Eastern Europe into spheres of influence, clearing the way for Nazi Germany's invasion of Poland.  On September 1, 1939, German forces, under a pretext of false flag attacks, invaded Poland. This act led Britain and France to declare war on Germany two days later, marking the official beginning of World War II. Hitler's aggressive expansionist policies, rejection of international agreements, and willingness to use military force were crucial factors that led to the outbreak of World War II. The war would go on to become the deadliest conflict in human history, resulting in the loss of millions of lives and significant destruction worldwide. |
| Include part of AI | As of my last update in September 2021, COVID-19 is caused by the SARS-CoV-2 virus and presents a wide range of symptoms, from mild to severe or even fatal. The risk factors for developing severe illness from COVID-19 can vary depending on an individual's age, overall health, and other medical conditions. Here are some of the common risk factors associated with severe COVID-19 outcomes:  Older adults, especially those over the age of 65, are at a higher risk of severe illness and death from COVID-19. The risk increases with each decade of age.  Underlying Health Conditions: Individuals with certain pre-existing health conditions are more vulnerable to severe COVID-19 outcomes. Some of these conditions include  Chronic respiratory diseases (e.g., asthma, chronic obstructive pulmonary disease - COPD),  Cardiovascular diseases (e.g., heart failure, coronary artery disease), Diabetes, Obesity, Chronic kidney disease, Immunocompromised conditions (e.g., cancer treatment, organ transplantation, HIV/AIDS).  Weakened Immune System: People with weakened immune systems are at higher risk of severe COVID-19. This includes individuals with immunodeficiency disorders or those taking immunosuppressive medications.  Pregnancy: Pregnant individuals might have a higher risk of severe illness from COVID-19 compared to non-pregnant individuals, particularly during the later stages of pregnancy.  Race and Ethnicity: Some studies have shown that certain racial and ethnic groups, such as Black, Hispanic, and Indigenous populations, may be at a higher risk of severe COVID-19 outcomes, likely due to social and health disparities.  Gender: Men have been observed to have a slightly higher risk of severe COVID-19 compared to women. It's important to note that while these are common risk factors, COVID-19 can still cause severe illness and complications in individuals without any known risk factors. Additionally, ongoing research might have uncovered new risk factors or refined our understanding of existing ones since my last update. To stay up-to-date with the latest information, it's best to refer to reliable health authorities and organizations. |
| Written by human | SVM stands for Support Vector Machine, and it is a powerful and widely used supervised machine learning algorithm. SVM is primarily used for classification and regression tasks and is effective in solving both linear and nonlinear problems.  The main objective of an SVM is to find the best hyperplane (decision boundary) that can separate data points of different classes in the feature space. In a binary classification problem, the hyperplane separates the data points into two classes, maximizing the margin between the two classes. The margin is the distance between the hyperplane and the nearest data points of each class. The data points closest to the hyperplane are called support vectors, which are critical in defining the decision boundary.  Key characteristics and components of SVM:  Kernel Trick: SVM can efficiently handle nonlinear problems through the use of the kernel trick. The kernel function transforms the original feature space into a higher-dimensional space, where a linear decision boundary can separate the data points. Common kernel functions include linear, polynomial, radial basis function (RBF), and sigmoid kernels.  C Parameter: SVM has a hyperparameter called C, which controls the trade-off between maximizing the margin and minimizing the classification error on the training data. A smaller C value leads to a wider margin but might result in misclassifications, while a larger C value aims for a narrower margin, potentially fitting the training data more closely.  Margin and Generalization: SVM's emphasis on maximizing the margin allows it to have good generalization performance on unseen data. It can handle cases of overlapping classes and noisy data more effectively than some other classifiers.  Multiclass Classification: SVM is inherently a binary classifier, but it can be extended to handle multiclass classification problems through techniques like one-vs-one (OvO) or one-vs-all (OvA) approaches.  SVM has found applications in various fields, including image classification, text classification, bioinformatics, and financial modeling. However, SVM's main limitation is its scalability to large datasets, as the training time complexity can be relatively high. For such cases, other machine learning algorithms like logistic regression or gradient boosting might be preferred. |
| Written by human | COVID-19, caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), emerged as a novel and highly contagious virus in late 2019. The disease rapidly escalated into a global pandemic, impacting the lives of billions of people worldwide. This article delves into the origins, spread, impact, and global response to the COVID-19 pandemic.  The first cases of COVID-19 were reported in Wuhan, China, in December 2019. The virus likely originated in bats and was transmitted to humans, possibly through an intermediary animal host. Rapid human-to-human transmission led to its swift spread across borders, turning it into a global health crisis. Within weeks, COVID-19 reached nearly every country, causing unprecedented challenges to healthcare systems and societies.  The impact of COVID-19 on public health has been staggering. Millions of people have been infected, and the disease has claimed numerous lives worldwide. The severity of the virus has varied across age groups, with older adults and those with underlying health conditions facing higher risks. Healthcare systems were overwhelmed by the surge in cases, leading to shortages of medical supplies and hospital beds in many regions.  The pandemic brought significant socio-economic consequences, with businesses shutting down, travel restrictions imposed, and millions of people losing their jobs. The closure of schools and workplaces forced many to adapt to remote learning and working. The pandemic exacerbated existing socio-economic disparities, disproportionately affecting vulnerable populations, such as low-income families and marginalized communities.  Countries around the world implemented various measures to control the spread of the virus, including lockdowns, social distancing, and mask mandates. Governments collaborated with healthcare institutions to develop and distribute vaccines at an unprecedented pace. Multiple COVID-19 vaccines received emergency use authorizations, contributing to efforts to curb the pandemic's impact and mitigate its long-term consequences.  COVID-19 also had a significant impact on mental health. Isolation, fear of infection, grief from losing loved ones, and uncertainty about the future contributed to heightened levels of stress, anxiety, and depression. Mental health services faced increased demand, emphasizing the need for comprehensive support and awareness of mental well-being during these challenging times.  The pandemic underscored the importance of global preparedness and collaboration. It highlighted the need for improved early detection and response systems to mitigate future outbreaks effectively. Lessons learned from this pandemic have spurred efforts to strengthen healthcare infrastructure, invest in research, and enhance vaccine development and distribution capabilities.  COVID-19 has presented humanity with an unprecedented challenge, changing the world in profound ways. While the pandemic has caused immense suffering and loss, it has also brought out the best in people through acts of kindness, innovation, and resilience. The world remains united in its determination to overcome this crisis and build a safer and more prepared future. As we continue to navigate these uncertain times, it is essential to remember the lessons learned and work together to create a healthier and more equitable world for all. |
| Written by ai | Donald Trump is a well-known figure in American politics and business. Here are some key facts and events related to him:  Donald Trump was the 45th president of the United States, serving from 2017 to 2021  He was born on June 14, 1946, in Queens, New York  Trump was a real estate developer and businessman who owned, managed, or licensed his name to various properties and businesses  He is a graduate of the University of Pennsylvania’s Wharton School of Finance  Trump has written more than 14 bestsellers  During his presidency, Trump was known for his unconventional communication methods and policies  Trump's presidency was marked by several controversies, including his impeachment by the House of Representatives twice  After leaving office, Trump faced legal challenges related to his business dealings and actions during his presidency  Trump remains a prominent figure in American politics and continues to have a significant influence on the Republican Party  Overall, Donald Trump's presidency and post-presidency have been marked by controversy and legal challenges, but he remains a significant figure in American politics and business. |
| Include part of AI | RNNs (Recurrent Neural Networks) and LSTMs (Long Short-Term Memory) are both types of neural networks used in deep learning. Here are some differences between them:  Differences between RNN and LSTM:  RNNs are simpler and faster to train than LSTMs, as they have fewer parameters and computations  RNNs have a short-term memory, while LSTMs have both long-term and short-term memory  LSTMs have feedback connections, which allow them to process entire sequences of data, while RNNs can only process single data points  LSTMs have a forget gate, which allows them to forget information that is no longer relevant, making them better at learning complex and long-range patterns  Overall, while RNNs are simpler and faster to train, LSTMs are better at learning complex and long-range patterns due to their long-term memory and forget gate. |
| Written by AI | During World War II, the leader of France was Marshal Philippe Pétain. He served as the Chief of State of the French government from 1940 to 1944. After the German invasion of France in 1940, Pétain became the head of the Vichy government, which collaborated with Nazi Germany. The Vichy regime controlled the southern part of France while the northern part was occupied by the Germans. Pétain's leadership is controversial, as his government implemented policies that cooperated with the Nazi regime, including anti-Semitic measures.  It's important to note that Charles de Gaulle, a French army officer, also played a significant role during World War II. He initially served in various capacities within the French government and military. However, he rejected the armistice signed by Pétain and fled to the United Kingdom, where he continued to lead the Free French Forces, a group of French expatriate units and resistance fighters who opposed the Vichy regime and the German occupation. De Gaulle later became a key figure in the liberation of France and played a major role in the post-war reconstruction of the country. He eventually became the President of France after the war. |
| Written by ai | Ancient Egypt, a civilization that flourished along the banks of the Nile River for over three millennia, continues to captivate our imagination. The legacy of this ancient civilization is deeply ingrained in human history, impacting various aspects of society, culture, religion, and governance. From awe-inspiring pyramids to enigmatic hieroglyphics, Ancient Egypt remains a treasure trove of wonders waiting to be explored. In this article, we embark on a journey through time to shed light on the remarkable achievements, beliefs, and customs of this extraordinary civilization.  Around 3100 BCE, Egypt witnessed the unification of Upper and Lower Egypt under the rule of the first pharaoh, Narmer. This marked the beginning of Egypt's dynastic history. The early period saw the construction of monumental structures like the Step Pyramid of Djoser, which laid the groundwork for the awe-inspiring pyramids of Giza, including the Great Pyramid - the sole surviving wonder of the ancient world.  The pharaohs of Ancient Egypt were considered divine rulers, serving as the intermediaries between the gods and the people. Their authority and power were absolute, and they were often depicted as god-kings in art and inscriptions. Some of the most renowned pharaohs include Ramses II, Hatshepsut, Tutankhamun, and Akhenaten.  Religion played an integral role in ancient Egyptian society, and their beliefs revolved around a complex pantheon of gods and goddesses. Ra, the sun god, was one of the most significant deities, symbolizing life and creation. Osiris, the god of the afterlife and resurrection, held a central place in the Egyptian belief system. Their strong faith in an afterlife led to the practice of elaborate burial rituals and mummification.  The ancient Egyptians were among the first to develop writing, and their script, known as hieroglyphics, remains one of the most intriguing mysteries of their civilization. Hieroglyphics were a combination of pictorial and symbolic representations, often carved into temples and tombs. Additionally, they used papyrus as a writing material, creating scrolls filled with knowledge and wisdom that have survived the test of time.  Ancient Egyptian art and architecture showcased remarkable craftsmanship and a deep reverence for symbolism. Statues, wall paintings, and reliefs adorned temples, tombs, and palaces, depicting gods, pharaohs, and daily life scenes. The colossal statues of the pharaohs, like the Sphinx and the Colossi of Memnon, continue to stand as testaments to their artistic prowess.  The ancient Egyptians were pioneers in various fields of science and engineering. They developed a sophisticated system of mathematics to support their architectural and agricultural endeavors. Their advancements in engineering enabled the construction of monumental structures, and their astronomical observations laid the foundation for a lunar calendar.  The Nile River was the lifeblood of Ancient Egypt, facilitating trade and commerce with neighboring regions and even distant lands like Mesopotamia and Nubia. The Egyptians exported precious materials such as gold, ivory, and spices, while they imported essential resources like timber and copper.  Ancient Egypt stands as a testament to the ingenuity, creativity, and spiritual depth of humankind. From awe-inspiring architectural wonders to the enigmatic hieroglyphics that still intrigue scholars, the legacy of this civilization continues to amaze and inspire us. By studying and understanding Ancient Egypt, we gain valuable insights into the origins of human civilization and the potential of human achievements. As we delve deeper into the mysteries of this fascinating civilization, we unveil a past that shaped our present and will undoubtedly impact our future. |
| Written by AI | Quantum physics, also known as quantum mechanics, is a captivating and revolutionary branch of physics that explores the fundamental nature of reality at the tiniest scales of existence. Developed in the early 20th century, quantum physics shattered the classical Newtonian worldview and gave birth to a realm of mysterious and counterintuitive phenomena that challenge our everyday understanding of the physical world.  At the heart of quantum physics lies the concept of quantization, which suggests that certain properties of matter and energy can only exist in discrete, indivisible units called quanta. These quanta are the building blocks of the universe and govern the behavior of subatomic particles like electrons, photons, and atoms.  Unlike classical physics, which describes the motion of macroscopic objects using deterministic laws, quantum physics operates under the principles of probability and uncertainty. In the quantum realm, particles can exist in multiple states simultaneously, a phenomenon known as superposition. Additionally, the act of measurement can significantly influence a particle's behavior, leading to the intriguing concept of wave-particle duality.  One of the most famous thought experiments in quantum physics is Schrödinger's cat, illustrating the peculiarities of superposition. This hypothetical scenario features a cat that can be simultaneously both alive and dead until observed, highlighting the bizarre and non-intuitive nature of quantum systems.  Quantum physics has had profound implications for various fields, including technology, computing, and cryptography. It is the backbone of modern electronics, enabling the development of transistors, lasers, and semiconductors. Furthermore, the field of quantum computing has emerged, promising unparalleled computational power that could revolutionize industries and tackle complex problems currently beyond classical computers' reach.  Although quantum physics remains mysterious and challenging to comprehend fully, its applications and potential have transformed our understanding of the universe and have paved the way for revolutionary advancements in science and technology. As researchers continue to unravel the enigmatic principles of quantum mechanics, new frontiers in physics await, offering the prospect of a deeper understanding of the cosmos and our place within it. |