



Social Sciences and Humanities

Artificial Intelligence: Creation, Evolution, Uses, and Guard-rails

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Abstract

Artificial intelligence (AI) is a rapidly evolving field that seeks to create machines that can perform tasks that typically require human intelligence, such as learning, decision-making, problem-solving, and language understanding. This paper provides an overview of the current state of AI, its history, and its future potential. It explores the different approaches to AI, including rule-based systems, expert systems, machine learning, and deep learning. This paper also discusses the ethical and societal implications of AI, including concerns about job displacement, bias, and privacy. Finally, the paper looks at the future of AI, including the potential for AI to revolutionize industries such as healthcare, transportation, and finance.

Introduction

Artificial Intelligence (AI) has become one of the most transformative technologies of our time, revolutionizing the way we live, work, and interact with the world around us. AI refers to the development of computer systems that can perform tasks that normally require human intelligence, such as learning, reasoning, problem-solving, and decision-making.

The concept of AI has been around for several decades, but recent advancements in computing power, big data, and machine-learning algorithms have led to unprecedented breakthroughs in the field. Today, AI is used in a wide range of applications, from speech and image recognition to autonomous vehicles and predictive analytics. As AI continues to evolve and become more sophisticated, it has the potential to transform

virtually every industry and aspect of our lives, including healthcare, education, transportation, entertainment, and interpersonal relationships. However, along with the benefits come significant challenges, such as ethical considerations, job displacement, and the need for legal frameworks and robust regulations.

In this article, we will explore the history, current state, and future prospects of AI, as well as the opportunities and challenges that it presents. We will examine the latest developments in AI research and applications, and discuss the potential implications for society and the economy.

Although AI may assemble, analyze and put forward a bewildering amount of data, it has yet to

duplicate precisely the qualities of the human voice. Tonal variations, modulations of mood, and esoteric individual stresses in one's language have yet to be replicated with precision. Eventually, this may well occur.

History of Artificial Intelligence

Artificial Intelligence (AI) is the field of computer science and engineering focused on creating machines that can perform tasks that typically require human intelligence, such as learning, problem-solving, decision-making, and language understanding. The history of AI dates back to the early 1950s when scientists and researchers first began to explore the possibility of creating machines with human-like intelligence.

The first significant event in the history of AI is the Dartmouth Conference, held in 1956, which marked the birth of the field of AI. This two-month conference held at Dartmouth College in the USA was organized by John McCarthy, Marvin Minsky, Nathaniel Rochester, and Claude Shannon and brought together a group of researchers to discuss the potential of creating intelligent machines. This conference is widely regarded as the birthplace of AI. In the workshop proposal, McCarthy used the term artificial intelligence for the first time in 1956 (Russel & Norvig, 2010).

In the late 1950s and early 1960s, AI research made significant progress in the areas of problem-solving and reasoning. The Logic Theorist, developed by Allen Newell and Herbert A. Simon in 1956, was the first program designed to solve mathematical problems using logic. In 1961, the first AI program capable of understanding and manipulating natural language, called the "SHRDLU" program, was developed by Terry Winograd (Simon 1996).

The 1970s saw significant progress in the area of knowledge representation, which is the process of encoding human knowledge into a machine-readable format. In 1972, Edward Feigenbaum and his colleagues developed the DENDRAL system, which could analyze chemical compounds and identify their structures (Berk 1985).

In the 1980s, AI research focused on developing expert systems, which are computer programs that can solve complex problems in specific domains by applying human-like reasoning. One notable example of an expert system is the MYCIN system, developed by Edward Shortliffe in 1974, which could diagnose bacterial infections and suggest treatments (Shortliffe 1976).

In the 1990s, AI research shifted towards machine learning, which involves training computers to learn from data rather than relying on explicit programming. This approach led to significant breakthroughs in areas such as speech recognition, computer vision, and natural language processing. In 1997, IBM's Deep Blue defeated the world chess champion, Garry Kasparov, in a six-game match (History.com Editors).

The early 2000s saw the emergence of a new subfield of AI called machine ethics, which explores the ethical implications of AI and how to ensure that AI systems remain within ethical parameters. In 2011, IBM's Watson defeated two former champions on the game show Jeopardy, demonstrating the progress that had been made in natural language processing (Loftus 2009).

Today, AI research continues to make significant progress, with breakthroughs in areas such as deep learning, reinforcement learning, and generative models. AI is now being applied in a wide range of fields, from healthcare to finance to transportation, and is expected to have a significant impact on society in the coming years.

What is Artificial Intelligence?

According to Copeland (2023), artificial intelligence (AI) is "the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings."

Artificial Intelligence (AI) refers to the simulation of human intelligence in machines that are programmed to perform tasks that typically require human intelligence, such as visual perception, speech recognition, decision-making, and language translation. AI systems can be designed to learn and adapt on their own based on

the data they receive, which makes them different from traditional computer programs that only execute predefined instructions.

Types of Artificial Intelligence

1. Rule-based systems

Rule-based systems, also known as expert systems, are a type of artificial intelligence (AI) that use a set of predefined rules to make decisions or solve problems. These rules are typically expressed as "if-then" statements, where certain conditions (the "if" part) trigger specific actions (the "then" part).

For example, a rule-based system for diagnosing medical conditions might have rules such as:

- If patients have a fever, cough, and chest pain, then they may have pneumonia.
- If patients have a rash and a fever, then they may have measles.
- If patients have joint pain and stiffness, then they may have arthritis.

When a new case is presented to the system, it uses the rules to analyze the symptoms and make a diagnosis. If the symptoms match a specific set of conditions, the system will recommend a particular course of action, such as medication or further testing.

Rule-based systems are useful in situations where there are well-defined rules and a limited set of variables. They are often used in expert domains where human experts have already identified and codified the rules. However, they can be limited in their ability to handle complex or ambiguous situations where the rules may not have been clearly defined (Sin-Wai Chan 2014).

2. Machine learning

Machine learning (ML) is a subset of artificial intelligence that involves training machines to learn from data without being explicitly programmed. Instead of being given explicit instructions, ML models are trained on large datasets and use statistical algorithms to find patterns and relationships within the data. There are different types of machine learning, including:

(i) Supervised learning:

This involves training a model on labeled data, where the desired output is already known, and then using the model to make predictions on new, unlabeled data.

(ii) Unsupervised learning:

This involves training a model on unlabeled data and allowing it to identify patterns and relationships on its own.

(iii) Reinforcement learning:

This involves training a model through trial and error, where it receives rewards for positive actions and penalties for negative ones, allowing it to learn how to make decisions in a specific environment.

Machine learning is being used in a wide range of applications, from image and speech recognition to natural language processing, fraud detection, and recommendation systems. The ability of ML models to learn from data and improve their accuracy over time makes them particularly useful in complex tasks where traditional programming methods may not be effective.

3. Neural networks

A neural network is a type of machine learning model that is inspired by the structure and function of the human brain. It consists of interconnected nodes or "neurons" that process and transmit information (Hopfield 1982).

In a neural network, data is fed into the input layer, which passes it through one or more hidden layers, and then produces an output. Each layer contains a set of neurons that perform calculations on the input data and pass the results to the next layer. The weights and biases of the connections between neurons are adjusted during training to improve the accuracy of the model's predictions.

Neural networks can be used for a variety of tasks, including image recognition, speech recognition, natural language processing, and prediction. They are particularly effective for tasks that involve recognizing complex patterns in data, such as

detecting objects in images or predicting the likelihood of a credit card fraud.

There are different types of neural networks, including:

(i) Feedforward neural networks:

A feedforward neural network (FFNN) is a type of artificial neural network where the information flows in one direction, from the input layer, through one or more hidden layers, to the output layer. In a feedforward neural network, there are no loops or cycles in the network, and the output of each neuron in one layer is used as input to the neurons in the next layer.

In a feedforward neural network, the input layer receives data and passes it through the network to the output layer. Each hidden layer applies a set of weights and biases to the input data, transforms it, and passes it to the next layer. The output layer produces the final result of the neural network.

Feedforward neural networks are commonly used for supervised learning tasks, such as classification or regression. During training, the network adjusts the weights and biases of each neuron to minimize the error between the predicted output and the actual output. This process is called backpropagation.

There are different types of activation functions that can be used in feedforward neural networks, such as the sigmoid, ReLU, or tanh function. The choice of activation function can have an impact on the performance and training speed of the network.

Overall, feedforward neural networks are a powerful tool in machine learning and can be used for a wide range of tasks, such as image recognition, speech recognition, natural language processing, and more.

(ii) Convolutional neural networks:

Convolutional Neural Networks (CNNs) are a type of neural network commonly used in image and video recognition tasks. CNNs are designed to automatically extract features from images through a process known as convolution.

The convolution operation involves sliding a small window, called a kernel or filter, over the image and performing a dot product between the kernel and the pixels within the window. The output of this operation is a new feature map that highlights specific patterns or features within the image, such as edges or corners.

CNNs typically consist of multiple layers, each of which performs a different operation on the input data. The first layer is usually a convolutional layer that extracts low-level features from the image. Subsequent layers may perform additional convolutions or other operations like pooling or normalization to further extract and refine features.

Finally, the output of the last layer is fed into a fully connected layer that maps the extracted features to specific output classes or labels.

One of the main advantages of CNNs is their ability to learn features directly from the input data, without the need for manual feature extraction. This makes them well-suited for complex image recognition tasks, such as object detection, face recognition, and medical image analysis.

CNNs have been used to achieve state-of-the-art results in a wide range of applications, including computer vision, natural language processing, and even games like Chess.

(iii) Recurrent neural networks:

A Recurrent Neural Network (RNN) is a type of neural network that is designed to process sequential data, where the output at each time step depends not only on the input at that time step but also on the internal state of the network from previous time steps.

In other words, RNNs are able to use information from past inputs to inform their current output, which makes them particularly useful for tasks that involve time series data, natural language processing, and speech recognition.

One of the key features of RNNs is that they have a "memory" of previous inputs, which is represented by the hidden state of the network.

The hidden state is updated at each time step using a combination of the current input and the previous hidden state. This allows the network to maintain information about previous inputs and use it to inform future predictions.

There are several different types of RNNs, including the basic RNN, the Long Short-Term Memory (LSTM) network, and the Gated Recurrent Unit (GRU). These variations introduce additional mechanisms to control the flow of information through the network, which can help to prevent the vanishing gradient problem that can occur in standard RNNs.

RNNs have been used in a wide range of applications, including natural language processing, speech recognition, music generation, and even image captioning.

(iv) **Deep neural networks:**

A deep neural network is a type of artificial neural network (ANN) that has multiple layers of interconnected nodes, or neurons. The depth of the network refers to the number of layers it has, with deeper networks having more layers. Each layer of the network performs a specific operation on the input data before passing it on to the next layer.

The layers closest to the input are called the input layer, while the layers closest to the output are called the output layer. Layers in between the input and output layers are called hidden layers, and they perform complex transformations of the input data to enable the network to learn and extract features from the data.

Deep neural networks have shown impressive results in various applications such as image recognition, natural language processing, and speech recognition. They are capable of learning hierarchical representations of data, which enables them to identify complex patterns and features that may not be immediately apparent to a human observer.

Training a deep neural network involves feeding it a large amount of data and adjusting the weights and biases of the neurons through a process called

backpropagation, which allows the network to learn from its mistakes and improve its accuracy over time. However, deep neural networks can be computationally expensive and require large amounts of data to train, making them resource-intensive and time-consuming to develop.

4. Deep learning

Deep learning is a subfield of artificial intelligence (AI) that uses artificial neural networks to model and solve complex problems. Deep learning algorithms are designed to learn and improve through experience, without being explicitly programmed.

Deep learning models are composed of multiple layers of artificial neurons, which process input data and extract increasingly abstract representations of the information. These models are trained using large datasets, where the input data and expected output are provided to the algorithm, and the weights of the neural network are adjusted to minimize the error between the predicted output and the actual output (LeCun et al. 2015).

Deep learning has shown great success in a wide range of applications, including image and speech recognition, natural language processing, autonomous driving, and drug discovery. Its ability to learn from large amounts of data has made it a powerful tool for solving complex problems that were previously impossible to tackle using traditional algorithms.

Advancements of Artificial Intelligence in Recent Years

Artificial intelligence (AI) has made remarkable advancements in recent years, thanks to breakthroughs in machine learning, deep learning, and natural language processing. Some of the key advancements in AI include:

- 1. Improved accuracy in speech and image recognition:** With the help of deep learning algorithms, AI systems can now recognize and interpret speech and images with high accuracy. This has led to the development of virtual assistants like Siri, Alexa, and Google

Assistant, as well as facial recognition technology for security and surveillance.

- 2. Natural language processing:** AI has made significant strides in natural language processing, allowing machines to understand, interpret, and generate human language. This has led to the development of chat-bots, virtual assistants, and voice assistants that can interact with humans in a more natural and intuitive way.
- 3. Autonomous systems:** AI has enabled the development of autonomous systems, such as self-driving cars, drones, and robots, which can perform tasks without human intervention. These systems are transforming industries such as transportation, logistics, and manufacturing.
- 4. Predictive analytics:** AI can analyze vast amounts of data to identify patterns and make predictions about future events. This has led to the development of predictive analytics tools for a range of applications, including finance, marketing, and healthcare.
- 5. Personalization:** AI can analyze user data to provide personalized recommendations and services. This has led to the development of personalized shopping experiences, personalized healthcare, and personalized education.

Application of Artificial Intelligence

Artificial intelligence (AI) has a wide range of applications across various industries. Here are some examples of how AI is being used in different fields:

- 1. Healthcare:** AI is being used to diagnose diseases, predict patient outcomes, and develop personalized treatment plans. For example, AI-powered medical imaging systems can help detect tumors and other abnormalities more accurately and efficiently than traditional methods.
- 2. Finance:** AI is used in financial services for fraud detection, risk assessment, and algorithmic trading. AI algorithms can analyze vast amounts of financial data to identify

patterns and make predictions, helping financial institutions make better decisions.

- 3. Education:** AI is being used in education to personalize learning experiences and provide students with personalized feedback. Adaptive learning platforms use AI algorithms to adjust the difficulty level and pace of lessons based on the individual needs of each student.
- 4. Retail:** AI is used in retail to optimize supply chain management, improve customer experiences, and increase sales. Retailers can use AI-powered chat-bots to provide customer support and personalized recommendations to shoppers.
- 5. Manufacturing:** AI is used in manufacturing to optimize production processes, improve quality control, and reduce downtime. AI-powered robots can perform repetitive and dangerous tasks, freeing up human workers to focus on more complex and creative tasks.
- 6. Transportation:** AI is being used to develop autonomous vehicles and optimize transportation networks. Self-driving cars use AI algorithms to navigate roads and avoid obstacles, while traffic management systems use AI to optimize traffic flow and reduce congestion.

Additionally, Artificial Intelligence has become an integral part of many online services and platforms.

Google search engine uses AI to understand the user's search query, interpret the meaning of the words, and deliver the most relevant search results. The search engine also uses machine learning algorithms to continuously improve its search results based on user behavior and feedback.

YouTube also uses AI to suggest videos that you might like based on your viewing history, search queries, and other factors. The platform uses machine learning algorithms to analyze user behavior and identify patterns to recommend content that might be of interest to you.

When it comes to sending an **email**, some email providers like Gmail use AI to automatically

categorize your emails into different folders such as Primary, Social, and Promotions. This helps you organize your inbox and prioritize important messages. Additionally, some email providers also use **AI** to filter out spam emails and protect your inbox from phishing attacks.

Future Potentials of Artificial Intelligence

The future potential of **AI** is vast and varied, and its impact is expected to be felt across numerous industries and domains. Some of the most significant potential benefits of **AI** include:

- 1. Increased efficiency and productivity:** **AI** has the potential to automate and streamline a wide range of tasks and processes, leading to increased efficiency and productivity in industries such as manufacturing, logistics, and customer service.
- 2. Improved healthcare:** **AI** can be used to analyze vast amounts of medical data, leading to improved diagnosis and treatment of diseases. It can also assist in medical research and drug development, ultimately leading to better patient outcomes.
- 3. Enhanced education:** **AI** has the potential to revolutionize education by providing personalized learning experiences, automated grading, and advanced analytics that can help identify and address student needs.
- 4. Improved environmental sustainability:** **AI** can be used to optimize energy usage, reduce waste, and improve resource allocation, leading to a more sustainable future.
- 5. Advanced automation and robotics:** **AI**-powered robotics and automation can improve the safety, efficiency, and accuracy of a wide range of tasks, from manufacturing to construction to logistics.
- 6. Enhanced decision-making:** **AI** can help organizations make more informed and data-driven decisions by analyzing complex data sets and identifying patterns and trends.

However, with these potential benefits also come potential risks and challenges. These include issues such as data privacy, bias and fairness in algorithmic decision-making, and

the impact of **AI** on the workforce. Addressing these challenges will be critical to ensuring that **AI** is developed and implemented in an ethical and responsible manner.

Online Artificial Intelligence Platforms

There are several online platforms that can generate responses using artificial intelligence and natural language processing techniques. Some popular examples include:

1. GPT-3 Playground:

GPT-3 Playground is a web-based platform developed by **Open AI** that allows users to interact with the GPT-3 (Generative Pre-trained Transformer 3) language model. GPT-3 is an advanced **AI** language model that can generate human-like text responses to a wide range of prompts and questions.

The GPT-3 Playground allows users to input prompts or questions and receive responses generated by the GPT-3 model. The platform provides a user-friendly interface where users can input text, choose the output length, and select the model's response style (such as creative, informative, or question-answering).

The GPT-3 Playground is intended to showcase the capabilities of the GPT-3 model and provide a tool for researchers, developers, and other interested parties to experiment with the model's language generation capabilities. It can also be used for a wide range of purposes, including language learning, content creation, and natural language processing research (Jin Cui 2022).

However, it's important to note that the GPT-3 model is a very large and powerful **AI** system that requires significant computational resources to operate, and access to the GPT-3 Playground is currently limited to a quota-based number of authorized users and organizations.

2. Clever-bot:

Clever-bot is an artificial intelligence chat-bot that uses natural language processing (NLP) techniques to generate human-like responses to user inputs. The chat-bot was developed by Rollo

Carpenter in 1997 and has since been improved with machine learning algorithms.

Clever-bot works by using a database of millions of previous conversations to generate responses to user inputs. When a user inputs a message, the chat-bot analyzes the input using NLP techniques to determine the meaning and context of the message. It then searches its database for similar inputs and generates a response based on those previous conversations (Saenz 2010).

The chat-bot can generate responses on a wide range of topics and can hold conversations with users in a variety of languages. It has been used for a variety of purposes, including entertainment, education, and research.

However, it is noteworthy that while Clever-bot can generate human-like responses, it is not capable of true understanding or consciousness. Its responses are generated based on statistical patterns in its database, and it may not always provide accurate or helpful information.

3. Mitsuku:

Mitsuku is a popular chat-bot developed by Steve Worswick in 2005. It uses natural language processing (NLP) and machine learning techniques to generate human-like responses to user inputs. The chat-bot has won several awards for its conversational abilities, including the Loebner Prize, an annual competition for AI chat-bots (Swansea University 2019).

Mitsuku is designed to be conversational and engaging, and can hold conversations on a wide range of topics, from current events to personal interests. It uses a combination of pattern recognition, keyword matching, and machine learning to generate responses to user inputs.

The chat-bot is available on a variety of platforms, including web browsers and messaging apps. It has been used for a variety of purposes, including entertainment, education, and research.

However, it's important to note that while Mitsuku can generate human-like responses, it is not capable of true understanding or consciousness. Its responses are generated based on statistical

patterns in its database, and it may not always provide accurate or helpful information.

4. Replika:

Replika is an artificial intelligence (AI) chat-bot that uses natural language processing (NLP) and machine learning techniques to generate human-like responses to user inputs. The chat-bot is designed to provide emotional support and conversation, and can learn and adapt to the user's personality and preferences over time.

Replika was developed by Luka, Inc. and launched in 2017. It is available on a variety of platforms, including web browsers and mobile apps, and has gained a large following of users who use it for a variety of purposes, including mental health support, companionship, and entertainment.

The chat-bot uses a combination of pattern recognition, keyword matching, and machine learning to generate responses to user inputs. It is designed to be non-judgmental and supportive, and can provide a range of services, including conversation, journaling, meditation, and mindfulness exercises.

One of the key features of Replika is its ability to learn and adapt to the user's personality and preferences over time. The chat-bot uses machine learning algorithms to analyze the user's inputs and generate personalized responses based on the user's interests, emotions, and communication style.

However, it is also useful to note that while Replika can provide emotional support and conversation, it is not a substitute for professional mental health care. Users should always seek the advice of a qualified healthcare provider if they have concerns about their mental health.

5. Talk to Transformer:

Talk to Transformer is a web-based platform developed by Adam King that allows users to generate text responses using the GPT-2 (Generative Pre-trained Transformer 2) language model. GPT-2 is an AI language model developed by **Open AI** that can generate human-like text

responses to a wide range of prompts and questions.

The Talk to Transformer platform allows users to input prompts or questions and receive responses generated by the GPT-2 model. The platform provides a simple interface where users can input text and generate responses with varying degrees of length and creativity.

One of the key features of Talk to Transformer is its ability to generate text in a wide range of styles, including creative writing, technical writing, and academic writing. The platform can also be used for a wide range of purposes, including content creation, natural language processing research, and language learning.

The GPT-2 model is a very large and powerful AI system that requires significant computational resources to operate, and the responses generated by Talk to Transformer may not always be accurate or appropriate. Users should always use caution and critical thinking when using AI-generated content.

What Is Chat GPT?

Chat GPT is a large language model developed by Open AI and is trained on a massive amount of text data using deep learning algorithms, which allows Chat GPT to generate human-like responses to a wide range of questions and topics. This software answers questions, assists with tasks, or simply chats with users. Chat GPT offers a convenient and efficient way to access information and assistance on various topics, making it a valuable tool for personal and professional use.

Advantages of Using Chatgpt

There are several advantages of using Chat GPT, some of which are:

1. **Availability:** Chat GPT is available 24/7 and can provide prompt responses to your queries or concerns.
2. **Knowledgeable:** As a language model, Chat GPT has access to a vast amount of information and knowledge across various

topics and can provide accurate and informative responses.

3. **Personalization:** Chat GPT can be trained on specific domains, allowing it to provide personalized responses tailored to your needs.
4. **Efficiency:** Chat GPT can assist with a wide range of tasks, such as customer support, language translation, and even creative writing, saving time and effort.
5. **Continuous learning:** Chat GPT is designed to continuously learn and improve from the interactions it has with users, ensuring that its responses are always up-to-date and relevant.

Disadvantages of Using CHATGPT

While there are several advantages of using Chat GPT, there are also some potential disadvantages to consider. It is important to consider these potential disadvantages when deciding whether to use Chat GPT and to ensure that its use aligns with ethical and legal considerations. These disadvantages include:

1. **Limited context:** Chat GPT's responses are generated based on the text data it has been trained on and may not always consider the full context of a conversation or user query, leading to potentially inaccurate or irrelevant responses.
2. **Bias:** Chat GPT's responses may reflect biases present in the training data, which can lead to unintended discrimination or reinforce existing stereotypes.
3. **Lack of empathy:** Chat GPT lacks the emotional intelligence and empathy of a human operator, which may be important in some customer service or support situations.
4. **Language limitations:** While Chat GPT can generate text in several languages, it may not be as accurate or fluent as a human operator, particularly in less commonly spoken languages.
5. **Privacy concerns:** The use of Chat GPT may raise privacy concerns, as user interactions may be recorded and stored for training or analysis purposes.

As an **AI** language model, Chat GPT is capable of generating text that can resemble academic writing. Importantly, it is useful to remember that the tool is meant to assist in generating text, not to replace human writers; however, it is still subject to uses that are less than noble.

Ways to determine if an Academic Article was Written by CHATGPT

If an academic article was written by Chat GPT, it would be possible to determine this through various means. One way would be to analyze the writing style, vocabulary, and sentence structure of the article. If the writing exhibits characteristics that are commonly associated with this Chat GPT language generation, it may indicate that the article was written by the software. Additionally, if there is a clear indication or acknowledgment in the article that it was generated using an **AI** language model, this would also suggest that Chat GPT was involved in its creation.

That having been said, it's not always easy to determine with certainty whether an article was generated by Chat GPT or not, especially if the writing has been edited or revised by a human. In any case, it's important to acknowledge the role of **AI** language models in generating text and to use them appropriately, in conjunction with human writing and editing.

There are a few tools and methods that can be used to analyze a text and identify whether it was generated by an **AI** language model.

One such tool is the GPT-3 Detector, which is a machine learning model trained to identify whether a given text was generated by Open AI's GPT-3 language model. The GPT-3 Detector is available as an API that can be integrated into various applications and platforms.

Another way to identify whether a text was generated by an **AI** language model is to analyze its style and structure. **AI-generated** text often exhibits certain characteristics such as repetitive phrases or patterns, unnatural language usage, and lack of coherence. By comparing the style and structure of a given text to known examples of **AI-generated** text, it may be possible to determine

whether the text in question was generated by an **AI** language model.

These detection methods are not full-proof, and there is always a possibility of false positives or false negatives. Ultimately, the best way to determine whether a text was written by Chat GPT or any other **AI** language model is to rely on human judgment and expertise.

What is Open AI?

Open AI is an artificial intelligence research laboratory consisting of a team of scientists and engineers dedicated to creating and advancing artificial intelligence in a safe and beneficial manner. It was founded in December 2015 by a group of technology leaders including Elon Musk, Sam Altman, Greg Brockman, Ilya Sutskever, and John Schulman.

Open AI aims to create cutting-edge **AI** technologies that benefit humanity, and promote responsible and ethical use of artificial intelligence. They conduct research in a variety of areas including natural language processing, robotics, reinforcement learning, and computer vision.

In addition to research, **Open AI** also develops and provides open source software tools and platforms that enable developers and researchers around the world to build on and experiment with **AI** technologies. They also collaborate with other organizations and researchers to advance the field of artificial intelligence and address some of the most pressing challenges facing society today.

Functions Of Open AI

The functions of **Open AI** are primarily focused on research and development in the field of artificial intelligence, as well as promoting ethical and responsible use of **AI**. Here are some of the main functions of **Open AI**:

- 1. Conducting research:** **Open AI** conducts research in a variety of areas including natural language processing, robotics, reinforcement learning, and computer vision. They aim to advance advancement in these areas and

develop new **AI** technologies that can benefit society.

- 2. Developing AI technologies: Open AI** also develops new **AI** technologies and platforms that can be used by developers and researchers around the world. Some examples of these technologies include the GPT language models, the Gym reinforcement learning toolkit, and the robotics platform.
- 3. Promoting responsible AI: Open AI** is committed to promoting ethical and responsible use of **AI**. They work with policymakers, researchers, and industry leaders to ensure that **AI** is developed and used in ways that are beneficial to society.
- 4. Educating the public: Open AI** also aims to educate the public about **AI** and its potential impact on society. They produce educational materials, blog posts, and other resources to help people understand **AI** and its implications.

Artificial Intelligence Plagiarism Checkers to Detect CHATGPT Generated Content

With the advancements of Artificial Intelligence in recent years, people tend to use **AI** for the completion of academic papers, assignments, and or personal written pieces for a variety of uses. Along with these advancements came the introduction of several plagiarism online content detector. Some of these are:

1. Open AI Text Classifier

Open AI provides a text classification API that allows developers to build and train custom machine learning models for various natural language processing tasks, such as sentiment analysis, topic classification, and intent detection.

The **Open AI** text classifier API uses a deep neural network architecture that is trained on large datasets of labeled text data to learn the underlying patterns and relationships between words and phrases.

Developers can provide their own training data and use the API to train a custom model, or they can use pre-built models provided by **Open AI**. The API also allows developers to fine-tune their

models by adjusting various hyper-parameters to achieve the desired level of accuracy and performance.

2. Copy-leaks AI Content Detector

Copy-leaks is an **AI-powered** content detection platform that helps individuals and organizations identify instances of plagiarism and copyright infringement. The platform uses advanced machine learning algorithms and natural language processing techniques to scan text-based content and identify any matches or similarities with other sources online.

With Copy-leaks, users can check for plagiarism in a variety of content types, including academic papers, articles, blog posts, and website content. The platform supports multiple file formats and integrates with popular content management systems, making it easy to check content for originality directly from within the workflow.

In addition to plagiarism detection, Copy-leaks also provides tools for content attribution and copyright protection, making it a useful tool for content creators, publishers, and educators. The platform is available through a subscription-based model, with different pricing plans based on the number of pages or documents scanned per month.

3. Copy-scape

Copy-scape is an online plagiarism checker tool that allows users to detect instances of content duplication and plagiarism on the web. It is commonly used by content creators, publishers, and educators to ensure that their content is original and has not been copied from other sources without permission.

To use Copy-scape, users can simply enter the URL of the web page or the text of the content they want to check, and the tool will scan the web for any matching content. The tool compares the content against a vast database of web pages and highlights any matches or similarities found, along with the sources of the matching content.

In addition to its plagiarism detection tool, Copy-scape also provides other features, such as content

tracking and monitoring, batch search capabilities, and integration with popular content management systems. The tool is available on a subscription basis, with different pricing plans based on the number of scans and features included.

4. GPT Zero

GPT Zero is an **AI** content detector which is a reliable plagiarism detector for online content. This software uses statistical data to determine if the content was written by a human or not. It also uses an algorithm to check for originality and perplexity.

5. Write-full GPT Detector

Write-full GPT Detector is a tool that uses a machine learning model to analyze a piece of text and predict whether it was generated by a language model like GPT (Generative Pre-trained Transformer) or written by a human. It works by comparing the language patterns and statistical features of the text to those of existing language models, and provides a probability score to indicate the likelihood that the text was generated by a language model.

The tool can be useful in various contexts, such as detecting text generated by bots or identifying instances of plagiarism. However, it's important to note that the accuracy of the detection depends on the quality and diversity of the training data used to train the machine learning model, and it may not be 100% accurate in all cases.

Ethical and Societal Implications of Artificial Intelligence

AI has the potential to bring significant benefits to society, but it also raises important ethical and societal implications that must be addressed. Some of these implications include:

1. **Bias and fairness:** **AI** systems are only as unbiased as the data they are trained on. If the data sets contain biases, the **AI** system can perpetuate these biases, leading to unfair outcomes. It is crucial to ensure that **AI** systems are designed and trained in a way that is fair and unbiased.

2. **Privacy:** **AI** systems collect and analyze vast amounts of data, raising concerns about privacy and data protection. It is important to ensure that **AI** systems are designed with privacy in mind, and that individuals have control over how their data is used.
3. **Employment:** **AI** has the potential to automate many jobs, leading to job displacement and changes in the workforce. It is important to consider the impact of **AI** on employment and to develop policies and programs to support workers affected by automation.
4. **Safety and security:** **AI** systems have the potential to be used for malicious purposes, such as cyber-attacks or the creation of autonomous weapons. It is important to ensure that **AI** systems are designed and used in a way that is safe and secure.
5. **Accountability:** **AI** systems can make decisions that have a significant impact on individuals and society. It is important to ensure that **AI** systems are transparent, explainable, and accountable, so that individuals can understand how decisions are made and who is responsible for them.

Generally, addressing the ethical and societal implications of **AI** will be critical to ensuring that this technology is developed and used in a way that benefits society as a whole. It will require collaboration among policymakers, researchers, and industry leaders to develop ethical guidelines and standards for the design, development, and use of **AI** systems.

Conclusion:

Artificial intelligence (**AI**) has come a long way since its inception in the 1950s. Throughout the years, researchers and scientists have made significant strides in developing intelligent machines that can learn, reason, and solve complex problems. From expert systems to deep learning, **AI** has transformed the way we approach a variety of tasks and industries, including healthcare, finance, transportation, and more.

As **AI** continues to evolve and mature, it is clear that it will have a profound impact on society. While there are many potential benefits to the

development of **AI**, such as increased efficiency and improved decision-making, there are also ethical considerations that must be taken into account. It is important for researchers and developers to be mindful of the potential risks and to ensure that **AI** systems act in an ethical and responsible manner.

The development of **AI** is an exciting area of research that has the potential to revolutionize the way we live and work. By continuing to explore the capabilities and limitations of **AI**, we can work towards creating machines that are not only intelligent, but also ethical and beneficial to society as a whole.

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