MAGAZINE

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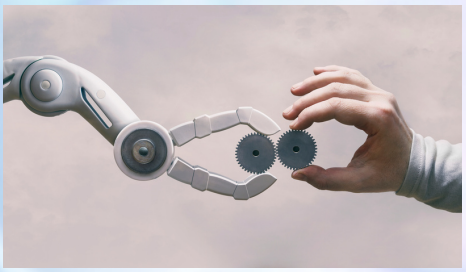
Department of
CSE

SORA AI - TEXT TO VIDEO GENERATOR

APPLE VISION PRO



COBOT

NEURALINK

Department Vision

To be a center for academic excellence in the field of Computer Science and Engineering education to enable graduates to be ethical and competent professionals.

Department Mission

To enable students to develop logic and problem solving approach that will help build their careers in the innovative field of computing and provide creative solutions for the benefit of society.

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SORA AI -(TEXT-TO-VIDEO MODEL)

Sora is a text-to-video model developed by the U.S.-based artificial intelligence (AI) research organization Open AI. It can generate videos based on descriptive prompts as well as extend existing videos forwards or backwards in time.

It leverages cutting-edge technology to provide intelligent solutions for businesses and individuals, combining machine learning, natural language processing, and computer vision to deliver accurate and efficient results

Recaptioning Technique: Sora utilizes the recaptioning technique from DALL-E 3 to create highly descriptive captions for visual training data, enabling the generation of videos solely from text instructions.

Training and Data Representation: Open AI has fed Sora videos and images as units of data or patches, allowing the training of diffusion transformers on a wider range of visual data than was possible before, spanning different durations, resolutions, and aspect ratios

The tool is not yet publicly available. For the time being, OpenAI has restricted its use to "red teamers" and some visual artists, designers and filmmakers to test the product and deliver feedback to the company before it's released more widely

APPLE VISION PRO

Apple Vision Pro is a mixed-reality headset developed by Apple Inc. It was announced on June 5, 2023, at Apple's Worldwide Developers Conference ,It became available for purchase on February 2, 2024, in the United States.

Apple Vision Pro seamlessly integrates digital content with the physical environment, offering innovative ways to interact and navigate using eyes, hands, and voice.

Battery and Performance: The platform is powered by the R1 chip for streaming images and the M2 chip for power-efficient performance, supporting up to two hours of general use and up to 2.5 hours for video playback, with all-day use possible when connected to an external battery

Developer Tools: The platform provides developers with familiar tools and frameworks like Xcode, SwiftUI, RealityKit, and ARKit, as well as support for Unity and the new 3D-content preparation app Reality Composer Pro, empowering them to create spatial experiences

Apple Vision Pro represents a significant leap in spatial computing, offering a seamless integration of digital content into physical space, with a focus on user interaction and immersive experiences.

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COBOT

A cobot, or collaborative robot, is a robot intended for direct human-robot interaction within a shared space, or where humans and robots are in close proximity. Cobot applications contrast with traditional industrial robot applications in which robots are isolated from human contact or the humans are protected by robotic tech vests.

Cobot safety may rely on lightweight construction materials, rounded edges, and inherent limitation of speed and force, or on sensors and software that ensure safe behavior.

Cobots can handle various tasks in the production process, such as packing commodities, assembly, machine tending, palletizing, and more. They are capable of tasks involving object displacement, loading/unloading machines, and other repetitive or precision-based activities.

The newest cobots can learn their tasks from human operators, eliminating the need for complex programming. They can be taught tasks through physical guidance, drag-and-drop programming, and other user-friendly methods, reducing downtime and simplifying reprogramming.

***Invention and Evolution**:* The concept of cobots was pioneered in 1996, and several models have been marketed over the years. Companies like KUKA Robotics and Universal Robots have been instrumental in developing and refining cobot technology, releasing various models with enhanced capabilities and safety features.

Optimization and Cost-Effectiveness: Cobots aim to optimize processes, minimize errors, increase productivity, and ultimately lead to a better operating result. While setting up and equipping a cobot requires an initial investment, it can result in long-term cost savings and improved profitability.

Consistency and Accuracy: Cobots are known for their high level of accuracy, consistency, and precision in performing tasks. They can maintain a consistent level of quality and accuracy, making them valuable for repetitive and precision-based activities.

Cobots are rapidly becoming an integral part of the robotics landscape, offering enormous potential to transform workplaces across various industries. Their collaborative and user-friendly nature, combined with their safety features and versatile capabilities, make them a valuable asset in modern manufacturing and production environments.

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NEURALINK CHIP

Neuralink is a company founded by Elon Musk and a group of engineers, with the goal of developing a brain chip interface that can be implanted within the skull.

The chip is designed to enable various functionalities, including helping disabled patients to move and communicate again, restoring vision, and potentially allowing individuals to control devices like a computer or a phone with their thoughts.

Implantable Brain Chip: The Neuralink chip is designed to be implanted within the skull, where it processes and transmits neural signals that could be transmitted to devices like a computer

Potential Applications: The chip has the potential to enable individuals with paralysis to control a computer cursor or keyboard using their thoughts alone, without the need for physical interaction

Electrode Arrays: The Neuralink device contains electrode arrays with more than 1,000 superthin, flexible conductors that are threaded into the cerebral cortex. These electrodes register thoughts related to motion

Security Risks: Experts have raised concerns about the security risks posed by brain chips, including the potential for deception and the dangers of medical device hacking

Neuralink's development of the brain chip represents a significant advancement in the field of neurotechnology, with the potential to revolutionize the way individuals interact with technology and to address unmet medical needs.

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