What Is Human Computer Interaction

Human-centered computing understanding human beings and with the design of computational artifacts. Human-centered computing is closely related to human-computer interaction and information science. It is emerged from the convergence of multiple disciplines that are concerned both with understanding human beings and with the design of computational artifacts. Human-centered computing is usually concerned with systems and practices of technology use while human-computer interaction is more focused on ergonomics and the usability of computing artifacts and information science is focused on practices surrounding the collection, manipulation, and use of information. Human-centered computing is closely related to human-computer interaction and information Human-centered computing (HCC) studies the design, development, and deployment of mixed-initiative human-computer systems 914600f985

Human-centered computing researchers and practitioners usually come from one or more disciplines such as computer science, human factors, sociology, psychology, cognitive science, anthropology, communication studies, graphic design, and industrial design. Some researchers focus on understanding humans, both as individuals and in social groups, by focusing on the ways that human beings adopt and organize their lives around computational technologies. Others focus on designing and developing new computational... 914600f985

Human communication gestures in reply, and maintaining eye contact throughout the interaction. Humans' ability to communicate with one another would not be possible without an understanding of what we are referencing or thinking about. The field of communication is very diverse, as there are multiple layers of what communication is and how we use its different features as human beings. The current study of human communication can be branched off into two major categories; Human communication, or anthroposemiotics, is a field of study dedicated to understanding how humans

communicate. Because humans are unable to fully understand one another's perspective, there needs to be a creation of commonality through a shared mindset or viewpoint 914600f985

3D human–computer interaction Both the user and the computer process information where the physical position of elements in 3D space is relevant. Both the 3D human–computer interaction refers to types of human–computer interaction where users are able to move and perform interaction in 3D space. 3D human–computer interaction refers to types of human–computer interaction where users are able to move and perform interaction in 3D space. It encompasses virtual reality and augmented reality 914600f985

Humans have communicatory abilities other animals do not. For example, humans are able to communicate about time and place as though they are solid objects. Humans communicate to request help, inform others, and share attitudes for bonding. Communication is a joint activity largely dependent on the ability to maintain common attention. We share relevant background knowledge and joint experience in order to communicate content and coherence in exchanges. Most face-to-face communication requires visually reading and following along with the other person, offering gestures in reply, and maintaining eye contact throughout the interaction... 914600f985 Human–robot interaction has been a topic of both science fiction and academic speculation even before any robots existed. Because much of active HRI development depends on natural language processing, many aspects of HRI are continuations of human communications, a field of research which is much older than robotics. 914600f985

Interaction design Interaction design borrows from a wide range of fields like psychology, human-computer interaction, information architecture Interaction design, often abbreviated as IxD, is "the practice of designing interactive digital products, environments, systems, and services. This element of interaction design is what characterizes IxD as a design field, as opposed to a science or engineering field. Rather than analyzing how things are, interaction design synthesizes and imagines things as they could be. " While interaction design has an interest in form (similar to other design fields), its main area of focus rests on behavior. science or engineering field 914600f985

A central theme of ACI research is establishing how user-centred design approaches and methods from HCI can be adapted to design for animals. Accordingly, many studies seek to adopt 'animal-centred' approaches to design and research. 914600f985

Outline of human–computer interaction outline is provided as an overview of and topical guide to human–computer interaction: Human–Computer Interaction (HCI) – the intersection of computer science The following outline is provided as an overview of and topical guide to human–computer interaction: 914600f985

The term was popularized by Stuart Card, Allen Newell, and Thomas P. Moran in their seminal 1983 book, The Psychology of Human–Computer Interaction. The... 914600f985

Human–robot interaction Human–robot interaction is a multidisciplinary field with contributions from human–computer interaction, artificial intelligence, robotics, natural language processing, design, psychology and philosophy. Human–robot interaction is a multidisciplinary field with contributions Human–robot interaction (HRI) is the study of interactions between humans and robots. A subfield known as physical human–robot interaction (pHRI) has tended to focus on device design to enable people to safely interact with robotic systems. Human–robot interaction (HRI) is the study of interactions between humans and robots 914600f985

The principles of 3D interaction are applied in a variety of domains such as tourism, art, gaming, simulation, education, information visualization, or scientific visualization. 914600f985 As a field of research, human–computer interaction is situated at the intersection of computer science, behavioral sciences, design, media studies, and several other fields. 914600f985 Interaction designers are often employed... 914600f985 Artificial intelligence has fluid definitions and varied research applications, but in brief can be applied to mechanizing tasks that would require human intelligence to complete. AI are tools designed to replicate the human abilities of navigating uncertainty, active learning, and processing information in different contexts. 914600f985 As a new and rapidly developing technology, unlike human-computer interaction, where a human directs a machine, human-AI interaction is characterized by a more collaborative

relationship between the computer program (the AI) and... 914600f985 == History == 914600f985

Animal–computer interaction It emerged from, and was heavily influenced by, the discipline of Human–computer interaction (HCI). emerged from, and was heavily influenced by, the discipline of Human–computer interaction (HCI). As the field expanded, it has become increasingly multi-disciplinary Animal–computer interaction (ACI) is a field of research for the design and use of technology with, for and by animals covering different kinds of animals from wildlife, zoo and domesticated animals in different roles. As the field expanded, it has become increasingly multi-disciplinary, incorporating techniques and research from disciplines such as artificial intelligence (AI), requirements engineering (RE), and veterinary science 914600f985

The 3D space used for interaction can be the real physical space, a virtual space representation simulated on the computer, or a combination of both. When the real physical space is used for data input, the human interacts with the machine performing actions using an input device that detects the 3D position of the human interaction, among other things. When it is used for data output, the simulated 3D virtual scene is projected onto the real environment through one output device. 914600f985 Human–Computer Interaction can be described as all of the following: 914600f985

Human–AI interaction With Human–AI interaction is a field of research and a sub-field of human–computer interaction, focusing on user experience and psychological factors. Human–AI interaction is a field of research and a sub-field of human–computer interaction, focusing on user experience and psychological factors. With the proliferation of artificial intelligence (AI), there has developed a subsection of HCI research dedicated to artificial intelligence and how people interact with and are impacted by it 914600f985

The origin of HRI as a discrete problem was stated by 20th-century author Isaac Asimov in 1941, in his novel I, Robot. Asimov coined Three Laws of Robotics, namely: 914600f985 Interaction design borrows from a wide range of fields like psychology, human-computer interaction, information architecture, and user research to create designs that are tailored to the needs and preferences of users. This involves understanding the context in which the product will be used,

identifying user goals and behaviors, and developing design solutions that are responsive to user needs and expectations. 914600f985 In her ACI Manifesto (2011), Clara Mancini defines one aim of ACI as understanding "the interaction between animals and computing technology within the contexts in which animals habitually live, are active, and socialise with members of the same or other species, including humans". She additionally proposes three core design goals for the field: enhancing animals' quality of life and wellbeing; supporting animals in the functions... 914600f985 == Introduction == 914600f985 Within the context of HCI and HAX research, artificial intelligence can be broken into two sub-fields, natural language processing (NLP) and computer vision (CV). AI technologies notably include machine-learning, deep-learning and neural networks, and large-language models (LLMs). 914600f985 Although there is no general agreement on the exact meaning of the term "interaction technique", the most popular definition is from the computer graphics literature: 914600f985 == Definition == 914600f985

Interaction technique It is a widely used term in human-computer interaction. It is a widely used term in human-computer interaction. a speech command. For example, one can go back to the previously visited page on a Web browser by either clicking a button, pressing a key, performing a mouse gesture or uttering a speech command. In particular, the term "new interaction technique" is frequently used to introduce a novel user interface design idea. In particular, the term "new interaction technique" is frequently used to introduce An interaction technique, user interface technique or input technique is a combination of hardware and software elements that provides a way for computer users to accomplish a single task 914600f985

== Origins == 914600f985 Research in 3D interaction and 3D display began in the 1960s, pioneered by researchers like Ivan Sutherland, Fred Brooks, Bob Sproull, Andrew Ortony and Richard Feldman. But it was not until 1962 when Morton Heilig... 914600f985 Human–Computer Interaction (HCI) – the intersection of computer science and behavioral sciences — this field involves the study, planning, and design of the interaction between people (users) and computers. Attention to human-machine interaction is important, because poorly designed human-machine interfaces can lead to many unexpected problems. A classic example of this is the Three Mile Island accident where investigations concluded that the

design of the human-machine interface was at least partially responsible for the disaster. 914600f985 == Definitions == 914600f985

Human–computer interaction These include visual, auditory, and tactile (haptic) feedback systems, which serve as channels for interaction in both traditional interfaces and mobile computing contexts. A device that allows interaction between human and a computer is known as a "human–computer interface". Research in HCI covers the design and the Human–computer interaction (HCI) is the process through which people operate and engage with computer systems. Research in HCI covers the design and the use of computer technology, which focuses on the interfaces between people (users) and computers. For example: the design of a smartphone's touchscreen interface involves HCI principles to ensure that icons are large enough to be tapped easily, and that gestures (like swiping or pinching) are supported. Human–computer interaction (HCI) is the process through which people operate and engage with computer systems. HCI researchers observe how people interact with computers and design technologies that allow humans to interact with computers in new ways 914600f985

While disciplines such as software engineering have a heavy focus on designing for technical stakeholders, interaction design is focused on meeting the needs and optimizing the experience of users, within relevant technical or business constraints. 914600f985

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