Study of Human Speculations Android Robot Interaction in Future World

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Abstract

Actualization or Body performance? Vital crucial dilemma in robot development. Artificial Intelligence (AI) researcher speculates on the future of social communication between humans and androids. In analyzing the curve of currently developing robotics technologies, the level of android fitness likely to be achieved within an estimatedtime of fifty years'. In this paper, we study the development of an android robot that delivers a similar appearance and several actuators generating micro behaviors as humans. Moreover we shall also discuss science of psychology, and a new phenomena that will set new challenges in facing with human-humanoid interaction. How would it feel to interact face-to-face with another person, without knowing whether that person was real or not.

Keywords:

Android, Vital crucial dilemma, Artificial Intelligence (AI), How-to handle AI in android, Future of AI in Android, Speculation on human in android, Interaction of Robot with human, Blade Runner, HTC Dream.

1 Introduction

The technology required to create android robot designed to look like human beings, is advancing rapidly. Androids have long been a staple of science fiction. Through such fare as Blade Runner, Star Trek, and BattlestarGalactica, the general public has become widely familiar with the idea of social interaction with highly realistic artificial persons. Beyond these fictional incarnations, the actual technology to design reasonable androids is progressing rapidly. Recurrent news stories announce the latest high technological advances in logical thinking, learning, appearance, affectation, body numbers, speech synthesis, and facial explanation of emotion. Today, the case of the profession is that if you step into a room and catch a glimpse of an android talking closer to it, appearance, such as skin and hair will immediately reveal the person to be artificial. Frequent news stories announce the latest technical advances in reasoning, learning, appearance, mannerisms, body movements, speech synthesis, and facial expression of emotion. Today, the state of the art is that if you walk into a room and catch a glance of an android, you might for a moment assume it to be a real person.

Android:

Android is an operating system based on the Linux kernel and layout, especially for touchscreen mobile devices such as smart phones and tablet computers, initially developed by Android. Google backed

financially and later bought in 2005. Android was disclosed in 2007 along with the founding of the Open Handset Alliance, a consortium of hardware, software and telecommunication companies devoted to advancing open standards for mobile devices. The first publicly available smartphone running Android, the HTC Dream, was released on 22th October, 2008[1].

The user interface (UI) of Android is based on direct control of using touch inputs that loosely compare to real world actions of like swiping, tapping and reverse pinching to manipulate on-screen objects. Internal hardware such as accelerometers including gyroscopes and proximity sensors are used by some applications to return to additional user actions. For an example, adjusting the screen from portrait to landscape build upon on how the device is oriented. Android allows users to customize their home screens with shortcuts to applications and widgets, which allow users to display live content. Applications can further send notifications to the user to inform them of suitable information such as new e-mails and text messages against being primarily created for phones and tablets used in televisions and other electronics devices.

Android source code is released by Google under open source licenses, although most Android devices ultimately ship with a combination of open source and proprietary software. Android is popular with technology companies which require a ready-made; low-cost and customizable operating system for high-tech devices. Android's open nature has encouraged a large community of developers and enthusiasts to use the open-source code as a foundation for community driven projects, including new features for advanced users or bring Android devices that officially released running other operating systems.

Artificial intelligence:

Artificial intelligence (AI) is the intelligence apparent by machines or software.It is also an academic field of study. Major AI researchers and textbooks define the field "the study and design of intelligent agents" where an intelligent agent is a system that gives its environment and takes actions that boost its chances of success. John McCarthy, who coined the term in 1955, describes it as "the science and engineering of making intelligent machines" [2].AI research is highly technical and specialized and is deeply divided into subfields that often fail to communicate with each other. Some of the division is due to social and cultural factors of subfields have grown up around particular institutions and the work of individual researchers. My research is also divided in several technical issues. Some area be focus on the solution of specific problems. Moreover several possible approaches or on the use of a particular tool towards the accomplishment of particular applications are consider.

Artificial intelligence (AI) the study of computational architectures of reasoning, including learning and knowledge will remain the primary limitation on reaching the threshold of resemblance. AI continue to develop at a glacial pace, with several powerful revolutions required to access the order of ramification needed to carry on even a 'small talk' reformation in natural language.

Robot:

A robot is a mechanical or virtual artificial agent, usually an electro-mechanical machine that is guided by a computer programed electronic circuitry [3]. Robots can be autonomous or semi-autonomous and range from humanoids such as Honda's Advanced Step in Innovative Mobility (ASIMO) and TOSY's TOSY Ping Pong Playing Robot (TOPIO) to industrial robots, collectively programmed 'swarm'

robots, and even microscopic nano robots. By mimicking a lifelike appearance or automating movements, a robot may convey a sense of intelligence or thought of its own. The branch of technology that deals with the design, construction, operation, and application of robots, as well as computer systems for their control, sensory feedback, and information processing is robotics. These technologies deal with automated machines that can take the place of humans in dangerous environments or manufacturing processes, or resemble humans in appearance, behavior, and cognition. Many of today's robots are inspired by nature contributing to the field of bio-inspired robotics. These robots have also created a newer branch of robotics: e.t Soft robotics.

Human Robot Interaction:

Human-robot interaction (HRI) is the study of interactions between humans and robots. It is often referred as HRI by researchers. Human-robot interaction is a multidisciplinary field with contributions from human-computer interaction, artificial intelligence, robotics, natural language understanding, design, and social sciences [4].

2 Literature Review

Previous Research Methods InHRI mainly Focus on one-to-one Communication.

Researchers [5] developed a Q&A communication system that reacts, based on a human speech and gaze tracking. (i.e., a robot moves based on an Attractor Selection Model with online human tracking. Sakamoto et al. [6] Later on Chikaraishiet et al. [7] proposed to add an ability for a natural idling motion developed a telecommunication system that can remotely control an android using facial motion capture.

These research methods were effective in limited task domain; however, the expansion of the task domain makes the preparation of all three Gestures unfeasible.

For multi-party communication, researchers have speculated about how a robot can participate in multi-party conversations [8]. This system could estimate a current speaker and the next speaker at the party by gazing tracking and speech recognition, reacting to improve awareness of the robot. Nakanishi et al. [9] and Sakamoto and Ono [10] proposed how to construct relations between agents and humans or between robots and humans using the psychology of interpersonal relations. These research methods are mainly focused on recognizing. The multi-party conversational situation. We are now developing a system on which the RMDB is implemented to enable not only recognition, but also interaction for multiple people with human-like. Gestures and facial expressions.

The Development of Human Like Robots.

Number of android has been developed and currently using for experimentation. The android can generate various kinds of micro motions such as the shoulder movements typically caused by human breathing. Silicon skin covers the head, neck, hands, and forearms. The compliance of the air actuators makes for a safer interaction. Highly sensitive tactile sensors mounted just under the android's skin enable contact interaction [11].

Free Will

At present, some AI researchers contend that people do not want androids with free will. For example, we prefer machines be under our control, such as recorders that record television, according to our demands rather than anticipating our preferences [12]. Accordingly,

investigations into the free will of robots may be far off. In any case, AI technology pales next to human intelligence on many fronts and examinations of artificial free will is considered philosophical at present [13].

3 Methodology

Locomotion:

Robotic locomotion and motion control is developing rapidly. The past 20 years have seen advances, some led by the Japanese industry, leading to the reasonably realistic humanoid robots of the present day [14]. It seems likely that androids will soon be capable of human-like walking and running, if the current rate of progress continues. The emerging engineering challenges are reliability and robustness of machinery. Nevertheless, widespread commercial development is picking up, suggesting that reliability issues will be addressed by the economy of mass production. For other reasons (detailed below), we believe that in fifty years the majority of android applications will be in office or service settings.Detecting emotions from speech. visual emotion detection, with the goal of modifying detecting emotions from speech will be quite feasible. This currently is an active and successful area of linguistics research, mirroring the active inquiries into human emotion detection [15].

Natural Language Processing:

Natural Language Processing (NLP), another barrier to meaningful interactions between humans and androids is the miss-understanding of natural language, such as English. Natural language

generation [16] seems today to be somewhat easier than the inverse problem of understanding. Most research in the past 15 years has focused on applications of statistical techniques together with a large amount of documents to simple NLP problems. More recent approaches try to involve more structure and knowledge in answering simple questions, with some success [17]. Nonetheless, it is far from possible to answer questions from text in a general-purpose manner. For example today. Systems cannot tell from studying the Old Testament if Isaac was born after Abraham's birth it seems likely that NLP will achieve a breakthrough in the coming 50 years that will enable such question answering.

Speech Integrating:

Speech recognizing is undergoing rapid research and development. Synthesis of speech from text now includes intonations and prosody that are real close to humans [18]. Speech recognition has benefited in recentyears of advances in machine learning, and showing better accuracy, though even so far from human-level performance [19]. These suggest that androids will speak with clear, human-like voices, and will identify spoken words with precision fifty years hence.

Facial Emotion:

The mechanism of human facial muscle action is well understood, such that their essential design is currently emulated in android face construction. Controlling discrete facial motion so as to set up a palette of facial emotional displays has made about progress [20]. The limitation of skin technology (especially with respect to stretching and wrinkling) will limit, to an extent and expect from a length of several measures.

Artificial Indecency (AI) in Act

Current research AI strives to model and reason in a real-time, general-purpose manner about the beliefs of agents [21], but connecting such reasoning to the real world (through language and vision) remains a challenge [22]. For that understanding, we consider that fifty years hence, androids may have the conversational capacity slightly more complex than the automatic phone services used by corporations today.Blade Runner-esque androids with personal agendas will remain the area of science fiction.

Design Challenges Suggested by Psychological Science.

In this section, we take into account psychological research findings point out some challenges that must be addressed by roboticist in order for androids to become truly realistic. In this part, we bring into account psychological research findings point out some challenges that must be addressed by roboticist in order for androids to become truly realistic.

Theory of Mind:

People effortlessly understand the substance of other people's words and actions, inferring underlying motives, emotional states, and the like. An ability, termed. Theory of mind. [23]. How human brains achieve this capacity is an active area of research across several disciplines of psychology. For example, social cognition theorists [24] have isolated a sequence of cognitive processing steps underlying theory of mind's capability (e.g., inferences about another person's category membership, intentionality, goals, dispositions, etc.), and decision theorists [25] have modeled these computational steps. How best to integrate the fruits of psychological research with AI research

remains an enormous challenge [26]. Psychology of Human-Android Interaction.

4 Conclusion

This paper proposed a hypothesis on how appearance and behavior related and mapped out the plan for android research to investigate. We stand at the cutting edge of a new machine- originated evolution of labor and employment. In the 1950s, the advent of electronic computers sent armies of human computers, who for many decades had toiled over paper spreadsheets to hand-compile never-ending columns of financial figures, to the unemployment line. In the 1980s through today, assembly line workers met a similar destiny when simple industrial robots replaced them. The vast majority of these workers found new employment in the service sector. By analyzing human impressions of the Actroid, we proved that motion parameterization contributedto the Actroid being wiser and more comprehensive. In these experiments, the Actroid generated appropriate gestures using the parameterization of the R.M.D.B and faced in the speaker's direction. As an effect of the SD method and ingredient analysis, a 1% level of important differences between parametric and non-parametric gestures existed in activity, sophistication, and speediness factors. We also found that the way of communication. The scientific discipline of psychology will face a remarkable new set of challenges in grappling with human-humanoid interaction.

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