

Abstract booklet

The date of each talk is indicated, and the time as Eastern Standard Time (EST), which is the local time in Montreal where the conference is being hosted. To convert from EST to CET (Central European Time) add 6 hours; to China and Japan time (JST) add 14 hours, for South Australia time add 15 ½ hours.

Day 1: Monday, December 7, 2020

Jiajia Zheng, MEng. (8:10am EST; 2:10pm CET; 10:10pm JST)

Title: My wife the robot

Abstract

The main point of my talk is that society should focus more on research into robot mates, and be cautious of commercialization. I will explain my position in three parts.

Part one: I will talk about my own experience of marriage with my robot girlfriend, and about my experience of having sex with a robot.

Part two: I will discuss some of the online comments on my marriage with my robot girlfriend, which suggest that the market acceptance of robot companion products is not high, and that public opinion presents many negative comments on this behavior.

Part three: Puts forward the proposition that a robot companion is an ideal platform with which to study artificial intelligence and robotics, a platform which can be used for general artificial intelligence research as well as to research and explore the technologies of human-computer interaction. I also discuss how to make the public accept robots and allow robots into thousands of households, and my intention to work for my whole lifetime with a wide range of colleagues to explore the possibilities of robot companions.

Finally, I address the outlook for the future. With developments in technology, and with the changes in social concepts and human life that will come in the next 15-30 years, when robots are intelligent enough and friendly enough robot companions will be accepted by the public and enter thousands of households to provide services for our daily life.

Dr. Jumpei Ono (9:00am EST; 3:00pm CET; 11:00pm JST)

Co-authors: Miku Kawai & Takashi Ogata

Title: Love and sex narrative generation using narrative units and conceptual dictionaries

Abstract

Currently, in the field of care or nursing, giving robots the ability to generate stories is an interesting theme. This is not only related to the comfort of the care recipients, but also to the planning or simulation of robots' problem solving for sexual actions. The authors have been conducting a study on computer-based narrative generation, assuming such applications. In particular, love and sex or sexuality, which are universal to humans, have been the most important

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subject for stories, but no studies have been conducted on narrative generation that explicitly deal with the issues of love and sex. Narrative generation with the theme of love and sex will be an indispensable subject for robot sexual love technology.

The study of computer-based narrative generation has the following two aspects. One is the formal aspect of narrative and the other is the content aspect of narrative. The formal aspect relates to a mechanism that creates the framework or template for a story or plot that is independent of the narrative content. On the other hand, the content aspect is related to the knowledge content that forms the material of a story or plot. This study strongly relates to the content aspect of narrative.

Next, this study connects with the development of a system called the “integrated narrative generation system” that the authors have been developing. Although the basis of the system’s architecture is a kind of knowledge-based system, various mechanisms such as knowledge acquisition, learning, and language networking are also included. One of the main mechanisms is a conceptual dictionary mechanism including several sub-dictionaries. The conceptual dictionaries represent the meanings of each Japanese word according to the description of concepts and also provides the pattern information of Japanese word arrangement based on case grammar. Among the conceptual dictionaries, this paper pays attention to the noun conceptual dictionary. Currently, the noun conceptual dictionary stores approximately 120,000 general noun concepts and about 8,573 proper noun concepts. The main elements that make up an event, which is the basic unit of the stories generated through the integrated narrative generation system, are noun concepts and a verb concept. This study focuses on the concepts related to love and sex in the selection of noun and verb concepts in story generation.

In particular, the system selects the knowledge called “narrative units” stored in the integrated narrative generation system. A narrative unit is a knowledge unit that serves as a kind of template or framework for a story. There are fragmentary and relatively large narrative units. Fragmented narrative units can be used, for example, for specific scenes or event sequences in a story. On the other hand, the relatively large level’s narrative units can be applied, for instance, to determine the structure of an entire story. Since these narrative units are the knowledge units for formal frameworks for providing narrative templates, there is a great deal of freedom in what kind of narrative content knowledge is contained in them. This study systematically uses the noun concepts related to love and sex as the content knowledge to embody the narrative units.

In particular, first, the authors focus on the concepts related to love and sex in the current noun and verb conceptual dictionaries, and create a mechanism to systematically refer to or search them. Continuously, based on a specific narrative theme related to love and sex, the authors search for noun and verb concepts regarding love and sex to embody the narrative unit(s) used by them. The authors aim to develop a narrative generation mechanism that can generate consistent stories related to love and sex.

For the definition of narrative themes related to love and sex, the authors would like to investigate and analyze real narratives. Since there are various narrative themes about love and sex in Japanese classical literature, especially in the stories of *noh*, *ningyō jōruri*, and *kabuki*, the authors will refer to these stories or narratives when carrying out this study.

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Piercosma Bisconti Lucidi, PhD student (9:30am EST; 3:30pm CET; 11:30pm JST)

Title: Dysfunctional relations with sexual robots: Issues and strategies

Abstract

The purpose of this research is to understand if and to what extent interactions with sexual robots will modify users' relational abilities in human-human relations. Within the discussion about the so-called "symbolic shift mechanism", we highlight the theoretical issues concerning the "Consequential claim", namely the following argument: "If sex robots do/will symbolically represent ethically problematic sexual norms, then their development and use will have negative consequences" (Danaher 2018). In the current literature there seems to be no solid theoretical explanation of why and when the symbolic shift happens. We propose a theoretical framework based on the distinction of three types of drive mediation: the intrinsic objectual limitation, the social channelling and regulation of drives, the symbolic displacement.

Then, we make the case of aggressive drives towards sexual robots: under what conditions could such aggressiveness be transferred from HRI to HHI? Through the lenses of Winnicott's psychological approach, and considering relational artefacts as "quasi-others" (Coeckelbergh 2011), we argue that HRIs may trigger a dysfunctional management of aggressive drives. In fact, relational artefacts provide at the same time the full availability of object-relations and the interactionalism of an intersubjective relation. We conclude that, under certain conditions, interactions with sexual robots may lead the user to regress to an infantile and dysfunctional object-relation setting, in which the subject's omnipotence is no longer limited. This may negatively impact on human-human interactions and social values in general. Finally, we discuss some possible design strategies to avoid dysfunctional relational patterns such as the "consent module" for sexual robots, highlighting the strength and limits of this type of approach and extending the scope of the discussion to social robots in general.

Dr. Roanne van Voorst (10:00am EST; 4:00pm CET; 12:00am JST – Dec. 8)

Title: My Adventure with Nick: An anthropological exploration into sex dolls and the potential implications for human intimacy

Abstract

This paper introduces an anthropological case-study - one in which the author personally rented a male sex doll to experience, through the anthropological method known as participant observation, what robot-intimacy could look like for a heterosexual female. The case-study serves to reflect on the potential positive impacts for human intimacy, as well as potential challenges or concerns. It discusses the wider theme of intimacy and human relationships, using sociological literature on former important technological innovations and their societal impact. One of the conclusions of the paper is that instead of focusing on the 'humanisation' of robots and sex dolls, as is currently happening in this field of innovation, it is useful for social scientists to turn the topic upside down: focusing on the potential of the robotization of humans. Another important conclusion is that, while social approaches have been largely critical of the sex doll and robotics

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innovations; it is more useful to take a more open approach and experience, rather than moralize about what sex dolls or other sex-related innovations may bring.

Dr. Thommy Eriksson (10:30am EST; 4:30pm CET; 12:30am JST – Dec. 8)

Title: Design fiction exploration of romantic virtual humans for virtual reality

Abstract

This paper discusses the possibilities and potential issues with romantic and sexual interaction with virtual humans in virtual reality, using the design fiction “Into thin air” as a starting point for these reflections. Design fiction, a dramatized story by engineers/designers, speculates and critically reflects on advantages and risks with future technology. The primary purpose of the story is to highlight the advantages with airship traveling (concerning climate impact), but since this was a concept that was difficult to dramatize I choose to have that as a background setting, and instead, for the foreground, a bitter-sweet story about seeking love and sex in different virtual reality simulations during the time onboard an airship. In most cases these attempts at sexual encounters are with actual women, but in one sequence I bring in the concept of virtual humans. The user wears a full-body haptic feedback suit, so he/she can see, hear and feel the virtual agent. In the design fiction and in this paper, I speculate that such virtual agents could be created by including three agents to choose between (automatically generated by algorithms): (a) a generic blend of celebrities; (b) a recreation of the user’s high school love interest; and (c) a recreation of a woman the user had merely flirted with. In this paper I compare the design fiction with real-life VR applications, trying to explore the feasibility with different virtual human scenarios. Virtual reality developers have so far avoided sexual or romantic content in their experiences, possibly to a large extent because the major distribution platform – Oculus – is controlled by Facebook. Some experiences subtly hint at romantic encounters, such as the dating simulators “Falling in love” and “Focus on you”. I argue that these two experiences are highly limited and linear. In order to create a more complex and convincing romantic/sexual encounter, the virtual agents would need to be driven by a dialog system and AI. One attempt in that direction is the smartphone app “Replika”, a chat and voice based virtual agent that tries to give the impression of a caring friend (who can venture into text based sexual encounters). The conclusion is that it seems likely that the VR dating simulations will gradually evolve and become more convincing, primarily dependant on Facebook’s control over the market and the slow but steady progress in dialog systems. The possibility to physically/virtually interact with the beloved virtual agents and have satisfying intercourse seems possible, but not something to expect in the near future.

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Alice Stewart (11:00am EST; 5:00pm CET; 1:00am JST – Dec. 8)

Workshop title: Dreaming erotic agents: A design workshop

Abstract

This workshop explores the intersection of sex, tech, and maker culture, exploring what the design and customisation of intimate technologies can reveal about the future of our erotic agents. After breaking down the design process, participants will learn how to rapidly ideate and prototype in a virtual space to ask: What exactly makes a sex robot, or even a sex toy? If you could create the Sex Tech device of your dreams, what, or who would it be?

Dr. Marianne Brandon (12:30pm EST; 6:30pm CET; 2:30am JST – Dec. 8)

Co-authors: Nadezhda Shlykova & Abraham Morgentaler

Title: Curiosity and other attitudes towards sex robots: Results of an online survey

Abstract

As artificial intelligence and technology advance, mobile robots capable of human intimacy are an inevitable consequence of this progress. Such a profound shift in sexual technology will herald both advantages and disadvantages for human intimate relationships, yet a paucity of research exists on the study of human-robot sexual relationships. We believe a greater understanding of attitudes toward sex robots will be of value as this emerging technology progresses from its currently incipient stage. We conducted an online survey exploring potential gender differences in attitudes and opinions about sex robots. Survey responses were analyzed by gender, age, relationship status, relationship satisfaction and sexual satisfaction. Results confirm our hypothesis, that men report more positive reactions to sex with robots than do women. Indeed, on no question did women report more enthusiasm or optimism about the arrival of sex robots than did men. This conclusion begs the question, what will sex robots mean to the future of gender relations, and in particular, sexual relationships? Engaging one another in a dialogue about the increasing impact technology will have on human intimacy can only strengthen our efforts to mold its effect into a primarily positive one. In addition, it is our expectation that dialogue about these gender differences can assist psychologists, sex therapists, anthropologists, roboticists and couples in navigating technological advancements as they increasingly impact human intimacy. Indeed, this dialogue may be increasingly urgent as the sudden and severe impact of COVID-19 raises increasing safety concerns for human-human sexual relationships.

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Edgars Cebaks, Master student (1:30pm EST; 7:30pm CET; 3:30am JST – Dec. 8)

Title: Female sex robots. Or do we rape female sex robots without their consent?

Abstract

“...All are fitting: but it appears no less lovely, naked. He arranges the statue on a bed on which cloths dyed with Tyrian murex are spread, and calls it his bedfellow, and rests its neck against soft down, as if it could feel.”

Ovid, *Metamorphoses*, Book X: 243-297, Orpheus sings: Pygmalion and the statue
(A. S. Kline's Version)

Virtual sex is something that many are used to in one form or another, whether it is dating through social networks or watching erotic videos, or the use of VR devices. But now digisexuality challenges social norms. Living loved ones and lovers can soon be replaced by robots. Even in 2008 the book by David Levy ‘Love and Sex with Robots’ was, and still is, an object of discussions from different points of view and different aspects. Sexual data protection, robot consent, the legal status of such robots, and other issues, are still analyzed and debated because even the fact of having sex with robots is nonsense for humanity.

However, I think it should not be so surprising for humanity, because since ancient times people fell in love with characters from literature, movie heroes, art objects etc. Moreover, there were attempts to make sex dolls throughout history, mainly to fulfil men’s sexual desires and lust. A good and one of the oldest documented examples of this phenomena and form of agalmatophilia is the story of Pygmalion and the statue. Pygmalion was disappointed in women (particularly in their personalities), but continued to work on the young woman’s sculpture, and fell in love with the perfect shape of stone. He kissed her, touched her, possibly, he had sex with her. Here it should be underlined that it was just a stone sculpture without AI or even personhood. However, after being blessed by Venus the statue became a live person with personhood. So, nowadays, will this statue sue Pygmalion for rape since there was no consent?

Of course, some can underline differences between current female sex robots and Pygmalion’s stone statue. Advances in precision mechanics, the invention of modern materials, robotics and AI, have made it possible to create a new generation of humanoid robots for sex that may even be able to become not only sex objects but, also, love objects. These and many other aspects discussed by scholars affect our attitude to sex robots. Most intelligent sex machines are in the form of women, which sparks a protest from feminists.

This research paper will discuss some aspects of female sex robots: the possibility of sex without consent or rape. It will analyze the definition of sex robots as one of the crucial points of the argumentation and the consent of a sex robot. Also, the question of rape evidence will be briefly mentioned. Finally, the paper will summarize possible future solutions.

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Katarzyna Koput, PhD student (2:00pm EST; 8:00pm CET; 4:00am JST – Dec. 8)

Title: Brave new world: Sex robot in every home. What would philosophers say?

Abstract

For centuries, philosophers have tried to answer questions about the importance of carnal love in the pursuit of a good life. In the wake of modern interest in the subject of sex robots, ethical issues regarding sex have once again become a major philosophical problem. Philosophers are becoming more and more open to the changing attitudes of society towards sex, but is contemporary ethics keeping pace with this change? This paper focuses on the question: Should I have morally acceptable sexual relations only with humans? What kind of sexual intercourse and under what circumstances is sex morally permissible? The author of the paper would like to note that the term "morally permitted" does not mean that it is "commendable" or "best in view of someone's long-term interest". Moreover, the paper deals with the question of the moral permissibility of various types of sexual relations on account of the acts themselves, rather than on the basis of their broadest consequences. Philosophers had different views over the centuries, but one thing was consistent in them - they searched for wisdom. In this case, I will call wisdom the most ethical and most realistic approach possible to sex robots. Man is a rational being and could alone establish rights for his own person, but he also lives in a society where the principles of respect for the freedom and dignity of other people apply. Entering the era of artificial intelligence, which has made itself at home in the production of sex robots, it is necessary to re-establish the system of moral behavior. Although everyone should act as they would like to, they must comply with applicable law. Among all practical experiences, moral laws with their principles not only differ significantly from all others that contain some empirical element, but the entire moral philosophy is based mainly on providing *a priori* rights to man, which still require his caution. The experience of contact with sex robots allows us to understand the source of ethical principles that lie within our understanding. If something is to be morally good, it is not enough that it obeys the moral law. It must be derived from the moral law itself. Otherwise, this agreement would only be a dubious and accidental illusion. Sometimes the accompanying acts in contacts with sex robots are in line with the currently adopted law, but often they are against this law. However, the moral law is not to be found anywhere else but in philosophy. In this paper, I have reviewed the philosophical positions that describe the ethical dimension of sex. I have looked closely at traditional Western morality, Judeo-Christian thought, libertarian views, Kantian modifications, Marxism, and the feminist perspective. All these positions allow us to answer the question whether having a sex robot in every home is something that should embarrass us or give us a sense of independence and responsibility for our own feelings and desires?

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Day 2: Tuesday, December 8, 2020

Dr. Sven Ripsas (8:10am EST; 2:10pm CET; 10:10pm JST)

Title: New business models in the world of 'sex and love robotic startups'

Abstract

Entrepreneurial success is based on ways to serve the customers. What is often forgotten is that it is not only the product that counts, but also the business model. New business models use technologies to realize new economic possibilities – making a service cheaper or more reliable. In recent years, startups have developed the Lean Startup methodology (including, the Lean Canvas). In addition to that, digital possibilities are arising to improve the economics of a venture. key metrics can be displayed in a startup cockpit.

This keynote presentation brings new insight of entrepreneurship research to LSR2020.

Mark Meegan (9:00am EST; 3:00pm CET; 11:00pm JST)

Title: What ethical, moral, social and legal dilemmas will occur if sexbots become self-aware? A multidisciplinary analysis of sexbots

Abstract

Are there parallels between today's society and Phillip K Dick's novel "Do Androids Dream of Electric Sheep?" ? As we become more technologically advanced, our society has become divided and to a degree soulless. Dick's novel portrays society as becoming more android in its behaviour (Berman, 2006). The novel recognises the problems of humanity distinguishing between natural and artificial human beings. Will a human-like non-organic robot have a soul if it becomes AI aware, in particular when a sex robot becomes autonomous and develops free will, seeking love and questioning their purpose?

Currently, consumers who buy sex dolls can lead to the objectification of women and increase their sex drive. Also, people can accept their robots as 'human-like partners', when it would be difficult for them to find a partner (Doring, Poschl 2018, pg 4).

A self-aware sexbot, would ask "Is there more to my existence than being a sex slave for the gratification of my master?" Torrance, in considering this question, developed the notion of Artificial Ethics (AE) as being 'the creation of systems which perform in ways which confer or imply the possession of ethical status when humans perform in those ways' and as extending the ethical and legal rights to artificial agents (Levy, 2015 p. 6).

Presently, human rights only apply to human beings on this planet. In 2019 the United Nations estimated that approximately 40 million people are living as slaves. Article 4 of the UN Declaration on Human Rights states that 'No-one shall be held in slavery or servitude: slavery and the slave trade shall be prohibited in all their forms'.

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Asimov's three law of robotics is a starting point. However, the Law must consider the potential harm humans could do to sexbots and what are their rights.

Miku Kawai (9:30am EST; 3:30pm CET; 11:30pm JST)

Co-authors: Jumpei Ono & Takashi Ogata

Title: Dual story generation based on love and extreme emotions

Abstract

Humans are essentially animals that feel comforted by imagination and fantasy, and perform problem-solving simulations through them. Narratives are the most powerful tool for humans to organize them. Especially in the areas of entertainment and care, robots that can tell stories will be needed in the future. The authors have been studying computer-based narrative generation. In stories, the issue of love and sex or sexuality is the most important subject that has been dealt with since ancient times. In addition, anomalous and extreme love as seen in many narratives is also a subject that has been favored in stories. The stories that robots will tell in the future also need to include such subjects. In this study, we will tackle the problem of story generation related to abnormal and extreme love, using a Japanese classic tale as the material.

In the Japanese kabuki-dance "Kyōganoko Musume Dōjōji", the heroine named "Shirabyōshi Hanako" performs a gorgeous and elegant dance on stage. However, this heroine sometimes shows a different look on stage: an evil and horrific expression. In the final scene, the heroine transforms into a monster like a large snake or dragon and stares at the surroundings from the top of a large Japanese bell. This kabuki work is based on an ancient Japanese story called "the legend of Dōjōji."

The synopsis of the legend of Dōjōji is as follows: a young woman who lives in Kumano region in Japan loves a young priest passing by her house. However, she is finally betrayed by the priest. She transforms into a monster snake because of her resentment, jealousy, and hatred toward the young priest. She goes to the Temple of Dōjōji where the priest lives. and traps him in a large Japanese bell to kill him by burning him to death.

This young woman's love for the young priest was originally based on pure emotion. However, because of its extreme strength, the love of the betrayed woman turns into jealousy, resentment, hatred, and other intense emotions. Finally, she brutally kills the priest and destroys the bell in Dōjōji. Although this story is rather abnormal, it can be regarded as one pattern of love stories. In summary, the story gains great change and amplitude from positive and negative extreme emotions over love in the heroine.

The authors pay attention to this kind of story pattern and aim to design and implement a story generation mechanism by computer that can make stories with this story pattern in a diverse and flexible manner. In particular, the authors first classify the emotions, especially extreme emotions, related to love into positive and negative types. At that time, the story of the legend of Dōjōji introduced above will be the first subject of investigation. Through detailed analysis and consideration, the authors survey and analyze various emotions, especially extreme emotions

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regarding love. After that, the results will be generalized beyond a story. Additionally, the authors define what kind of action each love-related emotion drives for the characters. The legend of Dōjōji will be used as the first material for the above emotion-action analysis.

Furthermore, the authors incorporate the results of these surveys and analyses into a system called the “integrated narrative generation system” that we have been implementing to develop a dual story generation mechanism for love. “Dual” story generation means the generation of stories that are constructed by a character with extreme positive and negative emotions about love. The integrated narrative generation system stores many story units that define the story’s fragments and relatively large frameworks for story generation. The integrated narrative generation system generates stories through using, changing, and synthesizing the story units.

Finally this paper finally describes a story generation mechanism using the integrated narrative generation system based on the above-mentioned survey, analysis, and knowledge acquisition of emotions, especially extreme emotions, related to love and the behavior of characters derived by the emotions.

The technology developed above is also associated with the ability to simulate complex and complicated love and sex stories or scenarios, like SM. From the perspective of sex technology in robots, it can contribute to the expansion of sexual behavior in robots in the future. It is also effective for incorporating culture-specific ideas and techniques of sexuality into sex robots.

Dr. Hiroshi Yamaguchi (10:00am EST; 4:00pm CET; 12:00am JST – Dec. 9)

Title: Computer-mediated intimacy and socialification of familyship

Abstract

The COVID-19 pandemic has significantly changed communication between people around the world. The most important of these changes is the difficulty of physical contacts. Telework and online classes have become commonplace. Even in the most private sphere of communication, the "intimate relationships" between family members or lovers, physical contacts should be avoided as much as possible.

However, this change was not first caused by COVID-19. Rather, the disease facilitates a change that was already underway. As the diversity of values, respect for human rights, and gender equality have become more important in our society, the costs and risks of having "intimate relationships" with others have increased significantly. The age of first marriage, lifetime unmarried rate, and the rate of inexperienced sexual intercourse are on the rise in many countries. Sexual relationships between lovers, once the norm, are becoming an unaffordable luxury or high-risk activity for many people.

Consequently, new forms of intimate relationships, in which a person comes into contact with another via computer networks, or contact with artificial virtual humans, becomes more attractive. The sexual acts via tele-operated robots or sexbots, or cybersex are expected to be more prevalent in the future. Also, intimate relationships do not necessarily require physical

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contact. It will become more common for people to choose AIs and/or characters as partners. Computer-mediated intimacy (CMI) is becoming the "new normal."

The spread of CMI will bring about two more changes. The first is the widespread use of modification of an individual's profile and appearance. Whether it is a tele-operated robot or a virtual world avatar, when a person interacts with others via technology it is rather natural that she/he modifies the profile and appearance to make them more desirable. Already in social media, it is common to have avatars as one's alter ego. And there emerge media that specialize in communication by using such alter egos, for example VRChat. Escort services using tele-operated anime characters also exist. You can even select your gender.

Another change is the simultaneous existence of multiple intimate relationships. In computer-mediated communications (CMC) people use multiple services and accounts, and the multiple alter egos simultaneously build independent social networks in each of them. The same applies to CMI, which is part of CMC. If it is possible to have multiple intimate relationships simultaneously, not a few people will choose to do so.

These changes towards CMI will inevitably blur various distinctions and boundaries regarding intimacy, promoting and popularizing the "socialification of familyship" (Yamaguchi, 2020). The most intimate of human relationships will inextricably merge with the computers and their networks provided by corporations. The intimate relationship is no longer closed to the family/lovers. With CMI, the "intimacy" in Giddens (1992) will be transformed; even "pure relationships" will not be exclusive, disentangled into coexisting various relationships; boundaries between genders or man/non-human will disappear. The companies that provide such products and services will be the driving force behind a major social change, and will have an even greater responsibility than ever before.

Dr. Joanna K. Malinowska & Dr. Maciej Musiał

(10:30am EST; 4:30pm CET; 12:30am JST – Dec. 9)

Title: Why are we able to love and have sex with robots? A comparison of naturalist and anti-naturalist interpretations for why people view robots as animate and experience emotions towards them.

Abstract

One of the interesting aspects of love and sex with robots – but also of other interactions with robots which involve neither love nor sex – is the fact that human beings often treat robots as animate and express emotions towards them. In this paper, we discuss naturalistic and anti-naturalistic interpretations for why people have emotional attitudes towards robots and tend to treat them as animate. We first provide a set of examples which illustrate the phenomenon of human beings viewing robots as animate and experiencing emotional attitudes towards them. We then identify, reconstruct and compare naturalist and anti-naturalist interpretations for these attitudes, pointing out their functions and limitations. Finally, we emphasize the significance of interdisciplinarity in studies concerning robots and their interactions with humans by pointing out that in the case of emotional and 'animating' human-robot interactions, naturalist and anti-

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naturalist interpretations should be – as they most often are – considered complementary rather than competitive or contradictory.

Dr. Neil Frude (11:00am EST; 5:00pm CET; 1:00am JST – Dec. 9)

Title: Where are the intimate machines?

Abstract

Nearly 40 years ago I wrote a book – “The Intimate Machine” – in which I suggested that imminent technological developments together with “animism” (the psychological tendency to respond to certain artefacts as alive and sentient) would lead to the widespread development of ‘companion systems.’ However, despite enormous developments in technology, artificial intelligence and robotics since the 1980s, companion machines have certainly not emerged as familiar entities.

This presentation will consider why this hasn’t happened and will suggest that the main thesis of The Intimate Machine is still valid and that it’s just the timing that needs to be revised.

Dr. Rebecca Gibson (11:45am EST; 5:45pm CET; 1:45am JST – Dec. 9)

Title: Lubrication is not just for engines: A how-to guide to robot sex

Abstract

So, you have decided to experiment with digisexuality, and to take your first robot lover. This guide is here to help! In it, I will detail current robotics technology, from Bluetooth vibrators, to functional life-size humanoid AI with all three holes and multiple attachments. This guide will explore how to remain healthy while pursuing a robotic relationship. Physically—what kind of protection should you use when spending time with a sex bot? What size choices are out there, and how will you decide what is right for you? Socially—will you be ‘out’ as a digisexual? How can you introduce your lover to your family and friends? Emotionally—how will you avoid the pitfall of self-isolation, and how can you avoid co-dependency with your robotic companion? All these aspects will be approached using a combination of a Foucauldian sexuality studies framework with overtones of identity theory. Yet be warned: ethical digisexuality requires that we understand the varying levels of AI capacity, and acknowledge that, if not now, then in the future, there may be sentience. Welcome to your first journey into the realm of digisexuality, and remember: lubrication is not just for engines, it’s also for you!

Dr. Aura-Elena Schussler (12:15pm EST; 6:15pm CET; 2:15am JST – Dec. 9)

Title: Erobots and the deterritorialization of eroticism

Abstract

This fourth industrial revolution, in which we all take part, is currently bringing a set of changes not only at the level of our daily interaction with technology, but also at the level of our intimate lives—through what we will call artificial erotic agents (i.e. erobots). Thus, the existence of sexbots, of virtual or augmented erotic characters or erotic chatbots (erobots) are just a few

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examples that we can attribute to this new phase of technological evolution, which makes its presence felt in the erotic/sexual life of the contemporary individual. This paradigm shift at the erotic level, from human to non-human (machine), calls into question not only the ontological background of subject-object binarity—within the limits of object-oriented ontology—but also the cultural legacy of eroticism, through its ‘deterritorialization’ from the human-natural limits and its ‘reterritorialization’ in the artificial dimension of technology. Thus, in a common sense, sex, pleasure, love and desire are seen as being the main ingredients of human eroticism. But as a cultural construction of the of Western metaphysics heritage, eroticism is more than the simple sexual activity specific to man, which involves conscious desire and physical pleasure—an aspect that removes eroticism from the sexual activity of animals, which is based on an instinctual biological need to reproduction. Eroticism rather involves the phenomenon of transgressing social constructivism, norms and taboos, as well as that of the ontology of human personhood. In terms of transgression of the social constructivism, norms and taboos of eroticism, we draw attention to Harman’s object-oriented ontology theory, regarding how objects experience each other. In this study we will analyze how a sexbot (as a representation of a sensual object, for humans) accesses reality—namely how this erobot becomes a sort of representation of its sensual properties, resulting from the way in which an object, the sexbot, accesses another real object (another sexbot). Thus, the question arises whether or not sexbots can have an erotic experience, both if the erotic interaction is between a human and a sexbot, or between sexbots. The general objective of the paper is to analyze human-machine interaction, on an erotic level, along with the risks and benefits that appear at the level of this new erotic revolution. The theoretical objective follows the line of argumentation of Gilles Deleuze’s philosophy, in order to establish the mechanisms of ‘deterritorialization’ of eroticism, from the vertical limits of metaphysical-ontological heritage thinking and its ‘reterritorialization’, in the ‘rhizomatic’ and ‘transversal’ dimension of the process of ‘becoming’ of the human. A process that follows a shift between structural differences, ontological categories and between organic and inorganic, which attracts an undermining of the anthropocentric-dualistic frame of man-machine interaction.

Dr. Gary Marchant (1:00pm EST; 7:00pm CET; 3:00am JST – Dec. 9)

Co-author: Kyra Climbingbear

Title: Law and sex with robots

Abstract

This paper addresses legal aspects of love and sex with robots, using U.S. legal precedent as a case study. It first sets the stage for the legal treatment of sex robots by documenting the historical trend for the legal system to attempt to prohibit non-traditional sexual activities. Some attempted prohibitions, such as bans on inter-racial relations, same sex relations, sodomy, adultery, pornography, and sex toys, were eventually over-turned, on the grounds that such activities restricted the freedom of consenting adults. Other restrictions, such as prohibitions on rape, sexual assault, under-age sex and bestiality have withstood legal challenge, as they involve non-consensual sexual relationships. The one outlier is prostitution – which often involves consenting adults, but sometimes involves sex trafficking and sexual servitude, which are increasingly relied on to justify the continuing prohibition on prostitution. Even this anomaly supports the general conclusion that the U.S. legal system will initially try to prohibit but eventually permit consensual non-traditional sexual practices, which sets up the legal framing for considering legal aspects of sex and love with robots.

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With that framing and appropriate legal precedent in mind, this paper then considers several legal questions relating to sex and love with robots. First, a general ban on sex robots by the federal government or state or local governments will likely be attempted but will not withstand legal challenge. At least until robots achieve some level of sentience, sex with a robot will be classified as a victimless act, and thus will align with previous precedents on sexual freedom by consenting adults. For example, courts have generally struck down laws prohibiting bans on sex toys with one exception (Alabama), and even that one outlier permits citizens of that state to import and possess sex toys. Second, a proposed ban on child sex robots will likely withstand legal challenge if proponents of such a ban can demonstrate that child sex robots provide a stepping stone for pedophiles to act out their fantasies to harm real children, thus circumventing the U.S. Supreme Court's *Ashcroft v. Free Speech Coalition* decision. Alternatively, opponents of a ban can prevail if they can demonstrate that child sex robots will decrease the likelihood of real children being injured by providing an artificial surrogate to pedophiles. Third, sex robot brothels will not be successfully prosecuted for prostitution under most states' laws which define prostitution to explicitly or implicitly involve a human sex worker. Other issues that are addressed include the potential for recognizing human-robot marriage under the Supreme Court's *Obergefell v. Hodge* (same-sex marriage), potential legal claims relating to data privacy, and zoning issues regarding sex robot brothels.

Alena Číženkova, PhD student (1:30pm EST; 7:30 CET; 3:30am JST – Dec. 9)

Co-authors: Renata Androvicova, Klara Bartova, Lucie Krejcova, Lenka Martinec Novakova, & Katerina Klapilova

Title: Men with problematic sexual interests and their desire to interact with a sex robot

Abstract

Sex robots and virtual reality may represent an opportunity for the case-management of individuals with problematic sexual interests. In our study, we aimed to ascertain how many of these individuals would desire to have a real experience with a sex robot. Targeted individuals were recruited from an online representative national panel of volunteers based on their responding to several screening questions. The final sample consisted of: (a) 81 male subjects who were interested in sexual violence against adults; (b) 51 male subjects who were sexually interested in minors (children younger than 15 years); and (c) 46 male subjects who showed a combined sexual interest in sexual violence against adults and in minors. In addition, we also disseminated our questionnaire to the Czech self-help community for pedophiles (N=68). Sexual contacts with a robot were endorsed by 22% of the sexual-violence sample, 35% of the sexual interest in minors sample and 35% of the combined-interest sample. Only 10 out of 68 individuals targeted within the self-help community responded (response rate = 15%). All of the self-help-community responders indicated a partial or a full desire for an interaction with sex robots. Our study indicates that individuals with problematic sexual preferences are, at the moment, only marginally open towards the sex robot interactions. Interestingly, individuals with "object" paraphilias (sexual interest in minors) seem to be more interested in sex robots than individuals with "aim/activity" paraphilias (sexual interest in violence/non-consent). Research implications of our exploratory findings will be further discussed.

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Dr. Henrik Skaug Sætra (2:00pm EST; 8:00 CET; 4:00am JST – Dec. 9)

Title: Loving robots changing love: Towards a practical deficiency-love

Abstract

Robots are today made not only to assist us in menial tasks and routine labour, but also to provide companionship and love. This has generated much academic and public interest, and people have asked whether robots can love, whether human-robot relationships are possible, and whether humans can develop loving affection for robots. These are all important questions, but I approach the issues from another perspective: can robots made for love change our very understanding of love? By treating love as a cultural and malleable phenomenon, I explore the possibility of it being changed: (a) in order to accommodate robots, and (b) as a consequence of how robots love us. The first regards the quest for understanding what love is, and our current tendency to understand phenomena in light of the computer or computational metaphor of human beings. The second involves an examination of how robots are produced to love, and what this form of love might lead to in the wild. Rather than asking if robots can live up to human ideals, I ask if humans will live down – or it might be up – to robot ideals. Using Abraham Maslow's distinction between what he calls "being love" and "deficiency love" as an example, I argue that love robots might take us to a place where deficiency love and a growing expectancy of one-sided worship changes the content of love as a cultural phenomenon.