

Science AMA Series: I'm Nadia Thalmann, head of the MIRALab Research Lab at the University of Geneva, chair the Institute for Media Innovation in Singapore at NTU, and Editor-in-Chief of Springer's The

NadiaThalmann¹and r/ScienceAMAs¹

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Abstract

Hi reddit! I am a very interdisciplinary researcher working with Virtual Characters and social robots. I like to model human behaviour as recognition of gestures and faces, and simulating natural reactions. My dream is to have a virtual coach that could help me in many situations (personal assistant). I also work for creating 3D virtual worlds, where we can see ancient decors and interact with ancient people. I am also interested in the medical field. I work with medical doctors and patients for simulating articulations. All my research can be seen on www.miralab.ch. For the Social robot Nadine, I was always interested in automaton. They were automatic machines that followed a sequence of predefined actions. With Nadine, the social robot, we can now create more autonomy and adaptation through the interaction. A lot of people have reacted to the fact that Nadine looks like a real person. Some of them like it, some others find it scary. For me, she looks quite natural. I would be happy to give more information or answer questions to anyone interested. I'll be back at 6 pm EST (3 pm PST, 11 pm UTC) to answer your questions, ask me anything!

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NADIA_THALMANN [R/SCIENCE](#)

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[A Pew Research Study published today](#) found the majority (65%) of Americans believe that robots/computers will do much of the work currently performed by humans within the next 50 years yet few (18%) expect their own professions to be replaced.

As someone working on making robots more lifelike and, in the case of Nadine, specifically intended for replacing a "human job," what effect do you think automation will have on the job market? Should there be a broader public discussion about the changes that automation will cause over the next few decades (similar to the ongoing discussion on artificial intelligence)?

[shiruken](#)

Well, 50 years from now is difficult to predict. Then if this would be the case, we need all to have a basic salary to survive (see discussion in Switzerland for giving a basic salary for anyone lifelong, votation will be done on June).

Hi Nadia! Thanks for the AMA!

Do you think we'll ever completely cross the "uncanny valley"? That we will ever be in a situation where no one ever finds robots "scary"?

Also, could you elaborate on what you do on your end to try to reduce this reaction? How do you

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influence our perception of your robotic creations?

[superhelical](#)

I am sure we will cross the uncanny valley. Look in google the films about Nadine robot. I am not scary of her. She is an embedded computer with nice human interface. But humans have real guts and I do not mix between the two. With Nadine, most visitors do not feel scary. They see her as a piece of art, a sculpture that is not passive but has capacity.

Can you explain or point towards the automated learning that Nadir uses? What kind of algorithm does it use? Does it require a lot of computational power? What is the emphasis on this project? Realistic/relevant responses? Pass the Turing test?

[lainekillua](#)

Nadine so far has no automatic learning as this is something we are tackling now . the goal of the project was to make a physical embodiment of personalized virtual human. I have been working on realistic virtual human since decades. And I like to see them physical and not virtually. This was my motivation. Nadine pass the turing test in some ways but suddenly we notice that she is not a human...just touching her skin. The skin is cold...

Hi Nadia,

Thanks for doing this AMA. What do you think will be the forum in which most people have their first interaction with a social robot.

Thanks!

[Surf_Science](#)

soon. Nadine can answer on skype. We have still to tackle the sound but normally, it will be in these coming weeks.

What is the eventual goal you're hoping to get by making such robots?

[blueredscreen](#)

First of all, as I worked for decades on Virtual Humans, I like to embody them and have a better feeling of presence and interaction. Then I really think that this kind of social robots could help people with special needs as those with dementia or Alzheimer. In old age home, patients are during the day hours alone although they would need constantly someone around in order they are trained to keep speaking, and interacting and be stimulating in their mental capacities. In fact, they go worse everyday. Nadine could help them: she could read stories, show pictures (memory game), sing, etc Nadine can memorize what each person like, and behave according to each individual needs. I like humans, but if no one is there, I would really prefer Nadine as a human tool, help me to memorize, to remember, to stimulate me...

Do you think the current state of AI is on the gradual road to sentience, or do you think there's a hitherto unseen and unpredicted breakthrough we need to achieve anything like that?

[Fidodo](#)

it depends on what is AI and how we define AI. If it is only reasoning, I think we will go on the gradual road to sentience (as you say). But if we like to define more human intelligence including emotional and social intelligence, social natural good sense, then we may never get to it. We are as humans unpredictable and too subtle. Good sense, smartness, how you find solutions which are not learned but dependent of any incredible situation is truly human. Models are difficult...thank you for the question

Not related to robotics but just want to give a shout out to you and Pascal Volino for writing one of the most simple to implement and cloth simulation paper.

Yours A very grateful Cloth Simulation Researcher

[jammie_jammie_jammie](#)

You are very kind to take of your precious time to say that. I was so fond of research on cloth simulation. We are still doing cloth research in MIRALab but this is no more our first research topic...all the best for you.

Thanks for doing an AMA!

I have a very, very, very serious question. What is your favorite sci fi novel/short story and why?

[abraz24](#)

Thank you for your serious question. I like mostly films from Woody Allen. the best one for me is matchpoint...not so much to do with sci fi story...

What's your opinion on the significance of Google's AlphaGo beating a world class player in Go this week (currently 2-0 in a 5 game match)? For the go community this is quite a significant event.

[dreamer8098](#)

This is a success of AI. But AI as reasoning technique and logic strategy is not sufficient to model a social robot that should interact naturally with all kind of people that have own emotions, pains, cultural background , motivations, etc. This will only help in the logic part. The most complex part is to model intention, multiparty interaction, smartness, self consciousness, memory processes linked to decision and speech, etc.