

Community Voices 12: Samira Kiani

Question 1: Share your professional bio

Dr. Samira Kiani leads Kiani lab at the Department of Pathology, School of Medicine at University of Pittsburgh in January 2020. The lab began in 2016 after Samira Kiani, MD, was hired as an assistant professor in the School of Biological and Health Systems Engineering, the Ira A Fulton Schools of Engineering at Arizona State University. Prior to ASU, Samira completed her postdoctoral training in the center for Synthetic Biology at Massachusetts Institute of Technology where she worked on developing synthetic gene circuits to reprogram the function and behavior of mammalian cells based on the Clustered Regularly Interspaced short Palindromic Repeats (CRISPR)/Cas9 technology. Dr. Kiani earned her medical doctorate degree (M.D.) from Tehran University of Medical Sciences. Prior to joining the University of Pittsburgh, she completed her postdoctoral training in the center for Synthetic Biology at Massachusetts Institute of Technology, where she worked on developing synthetic gene circuits to reprogram the function and behavior of mammalian cells based on the Clustered Regularly Interspaced short Palindromic Repeats (CRISPR)/Cas9 technology. Cas9 protein is a DNA cleaving enzyme that can be targeted to any DNA sequence by means of a small guide RNA (gRNA) and can be adapted both for gene editing and gene regulation.

Question 2: Share your heritage and family traditions. Where did you grow up? Share a family tradition that you continue to this day.

I grew up in Iran. Celebrating Nowruz, the spring equinox is something we do every year as it marks the Persian new year.

Question 3 Experience with AI. Have you used AI technologies? If yes, please describe your experience. How do you perceive the role of AI in your professional or personal life?

I have only used this in the context of data analysis and prediction in my line of work in stem cell engineering. Have experienced ChatGPT. I don't necessarily connect with Chat GPT much as I perceive it artificial but recognize the value of it in our lives as we advance the technology.

Question 4: AI and Cultural Preservation. Can you envision any innovative ways in which AI could be used to safeguard intangible cultural heritage, such as language, folksongs, or storytelling? Are there specific traditions, practices, or aspects of your culture that you believe could benefit from AI technology?

AI can be used to locate and connect and predict people who share similar artistic, or cultural backgrounds in order to develop new communities of support to preserve or advance certain cultural practices. It can also be used to deduce and revive the forgotten cultural practices through prediction and projections.

Question 5: AI and Nature. Could you describe a traditional practice from your own culture, or one you've learned about or reported on, that helps in environmental sustainability or climate resilience? Additionally, how do you think AI could be utilized to support or improve this practice?

Honoring nature and the healing power of nature, to promote human psychological health and

creativity is something I'm passionate about. Most of us live in concrete buildings, and although inherently and instinctively we are part of nature and hence drawn to it, we forget the power of nature in our daily lives, blind ourselves to its power and try to survive. What if AI could help us see beyond a concrete building and imagine what a nature-based design instead of a concrete building at a particular location could look like? What if we could write down our desired criteria and upload the image of the current building and ask AI to render it to a natural restorative environment of living.

Question 6: Wisdom of Elders and AI. What role do elders play in preserving culture and wisdom in your community? With ethical practices at play, can AI play a role in capturing and disseminating this wisdom? If yes, how?

It all starts with data that we feed it. I believe it's important that we train AI with as much wisdom as possible. So yes, it can. It should start with the intention of AI creators. To include these points of views from get go.

Question 7: AI and Ethics. How important is it for AI systems to be developed ethically, especially in the context of cultural preservation? What steps would you like to be taken to ensure that, as AI expands, it represents diverse cultural perspectives?

Absolutely important! The creation process needs to involve many diverse thought leaders. The AI creators shouldn't work in silos rather be in a collective. A collective that helps them consider and implement diverse points of view in the design process.

Question 8: AI and Personalization. We know that AI systems today don't understand the values and needs of diverse populations. Would you be willing to voluntarily share your family traditions and customs with your personal AI device to improve personalization?

If it's a personal device, yes!

Question 9: Future of AI in community development. What potential risks and benefits should be considered when integrating AI into community initiatives?

There are several questions that I personally think are important to be considered for integration of AI in human communities. The most important of which is where AI ends and humans begin. Rise of social media and digital technologies has shown us how things can turn out unexpectedly. A promise of connectivity with social media ended up creating so many superficial interactions and removed many instances of deep meaningful human connection. When it comes to social issues. When we introduce AI, we need to consider how to use it to enhance and empower humanness and not to replace it. Diversify, equity of access, moral use of technology and empowering human potential should be at the core of building these technologies.

Question 10: Final Thoughts. Is there anything else you would like to share about your views on AI and its role in preserving cultural heritage and traditions?

I would like to emphasize that creators of AI carry a huge responsibility. They need to recognize that they have to embrace the collective intelligence and community of diverse thinkers in the process of design and creation of these technologies. Only through these deliberate dialogues

they can gain comprehensive insight on what can go right or wrong and build safeguards to prevent misuse.