



**Ece Kamar, Microsoft Research Ph.D. Fellow**

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**Research Focus:** Artificial intelligence

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# Ece Kamar

## Ph.D. Researcher Aims to Push the Limits of Artificial Intelligence

Most of us take the spell-check feature in our software programs for granted and don't spend much time pondering how it works. That's not the case for Ece Kamar. During her second year at Sabancı University in Istanbul, Turkey, Kamar's passion for computer science blossomed when she began helping on a research project that used artificial intelligence techniques to develop better spell-check applications for the Turkish language.

"After doing research on this, you see that it's not a miracle," Kamar says. "There are algorithms, logical reasoning underlying these processes that explain how a computer can understand a language and work with people to correct mistakes."

Kamar says this realization opened her eyes to the vast potential of artificial intelligence and the promise it holds for making computers more useful in our everyday lives. "What amazes me about computing technologies is how—with a little creativity and understanding of computation—you can create software that affects people's lives," she says.

Kamar has stood out academically her entire life. The science high school she attended in Turkey admitted only 100 students from across the nation. She received a fellowship from Sabancı University after ranking 21st among more than a million students in Turkey's national university entrance exam.

As a Ph.D. student at Harvard University—advised by Professor Barbara J. Grosz of the Artificial Intelligence Research Group in the School of Engineering and Applied Sciences—Kamar says her goal is to "pursue research that pushes the limits of artificial intelligence."

In the summer of 2007, Kamar was offered an internship at the Microsoft Research lab in Redmond, Washington, where she had the opportunity to work alongside leading experts in artificial intelligence. Later that year, she was nominated by her mentors at Harvard for a Microsoft Research Fellowship, an award given to just a dozen Ph.D. students each year in North America.

After a rigorous selection process, Kamar got word that she would receive the fellowship. That meant the final two years of her Ph.D. costs at Harvard would be covered fully by Microsoft. The fellowship also came with a new laptop, an annual stipend for attending academic conferences and

another paid internship at Microsoft Research in Redmond.

She says the fellowship has enabled her to interact frequently with researchers from different computing fields, learn about challenges in applying theoretical ideas to real-life applications and work with the latest cutting-edge technologies.

"The financial aspect of the fellowship is very nice," Kamar says. "But the most important thing for me is the collaboration I get to do with researchers at Microsoft. The time I spent at Microsoft has allowed me to work on problems that I had not even thought of before."

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Kamar has worked under veteran Microsoft researcher Eric Horvitz on a variety of artificial intelligence projects that could eventually lead to new software features or products. For instance, by observing people's daily activities, she helped design a program that learns which meeting notices people are most likely to forget—information that could eventually be used to improve reminder systems in personal calendar programs such as Microsoft® Outlook®.

Kamar has also been working with Horvitz on a project to design an intelligent application for setting up carpools. Using GPS devices, they tracked the daily commutes of 215 Microsoft employees in Redmond. They are using that information to run simulations that will show which employees should ride together and what routes they should take in order to achieve the greatest reductions in fuel consumption and carbon emissions.

Kamar is convinced that such artificial intelligence approaches will become increasingly important as researchers continue to expand and enhance the way humans interact with computers.

"In many settings right now, computers are more like servants—you give a command, it responds back," Kamar says. "But in artificial intelligence, we want computers to be our partners. We want them to understand us, correct us and work with us."