AI Profiles: An Interview with Leslie Kaelbling

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Introduction

Welcome to the eighth interview profiling a senior AI researcher. This time we will hear from Leslie Kaelbling, Panasonic Professor of Computer Science and Engineering in the Department of Electrical Engineering and Computer Science at MIT.

Figure 1: Leslie Kaelbling

Biography

Leslie is a Professor at MIT. She has an undergraduate degree in Philosophy and a PhD in Computer Science from Stanford, and was previously on the faculty at Brown University. She was the founding editor-in-chief of the Journal of Machine Learning Research. Her research agenda is to make intelligent robots using methods including estimation, learning, planning, and reasoning. She is not a robot.

Getting to Know Leslie Kaelbling

When and how did you become interested in CS and AI?

I went to high school in rural California, but the summer before my senior year I went to an NSF summer program in math. We actually ended up studying computer science. My crowning achievement was writing quicksort in Basic! I also discovered Scientific American, and started reading Martin Gardner's columns (the only part of the magazine I could even sort of understand) and learned about *Gödel, Escher, Bach* by Douglas Hofstadter. I managed to get a copy of it, and that's what made me really get interested in AI.

What professional achievement are you most proud of?

Starting JMLR, I guess. I think it's been very helpful for the community, and was actually not very hard to do.

What would you have chosen as your career if you hadn't gone into CS?

No idea! I'm pretty flexible. But almost sure something technical.

What is the most interesting project you are currently involved with?

I'm doing the same thing I've always been doing, which is trying to figure out how to make really intelligent robots. I do this mostly out of curiosity: I want to understand what the necessary and sufficient computational methods are for making an agent that behaves in a way we'd all be happy to call intelligent. I think human intelligence is probably a point in a big space of computational mechanisms that achieve intelligent behavior. I'm interested in understanding that whole space!

AI is grown up – it's time to make use of it for good. Which real-world problem would you like to see solved by AI in the future?

I'm not so focused on solving actual problems, but I'm fairly sure that methods that are developed on the way to understanding computational approaches to intelligent behavior will end up being useful in a variety of ways that I don't anticipate.

How can we make AI more diverse? Do you have a concrete idea on what we as (PhD) students, researchers, and educators in AI can do to increase diversity our field?

Unfortunately, I don't, really. The answer for AI is probably not substantially different from the answer for CS or even engineering more broadly.

How do you balance being involved in so many different aspects of the AI community?

I'm a good juggler! But it's suddenly much harder than it was, just because of the enormous growth of enthusiasm about AI, and machine learning in particular. Everything I do, from teaching undergraduates to graduate admissions to hiring to writing tenure letters to reviewing papers to organizing conferences has just gotten an order of magnitude bigger and more complex. I was really affected by this for a while, but now I'm honing my "no"-saying skills so I can protect time to actually do research (which is why I'm in this business, after all).

What do you wish you had known as a Ph.D. student or early researcher?

I don't know. Things worked out pretty well for me, but completely by accident. I think there are many ways in which it's actually good to not know much. You have a greater chance of doing something really novel or really hard just because you don't know it's novel or hard.

What is your favorite AI-related movie or book and why?

Well, *Gödel, Escher, Bach* was formative for me. Its focus on primitives and systems of combination, and themes of recursion, semantics, quotation, reflection really resonated with me and I'm sure that the ways in which I think and formulate problems still show its influences. I haven't re-read it since I was 17, though, so I don't know what it would feel like now.

Help us determine who should be in the AI Matters spotlight!

If you have suggestions for who we should profile next, please feel free to contact us via email at aimatters@sigai.acm.org.