What Should K-12 Students Know About Artificial Intelligence?

Children today are growing up with artificial intelligence. By the time they reach kindergarten, they’ve likely been conversing with Alexa for years. It’s vital that students become AI literate as our society begins to wrestle with the significant social and ethical challenges AI technology is raising. Equity considerations also argue for universal AI education, so that AI-related career opportunities are accessible to all students, and so that the population of AI developers is as diverse as society itself.

The AI4K12 Initiative, a joint project of the Association for the Advancement of Artificial Intelligence (AAAI) and the Computer Science Teachers Association (CSTA), with funding from the National Science Foundation, is developing national guidelines for what every K-12 student should know about AI, and what they should be able to do. The initiative has released a list of “Five Big Ideas in Artificial Intelligence” that will serve as the organizing framework for the guidelines. New tools and new curricula, developed by multiple groups around the world, are making AI concepts accessible even to very young students. This talk will survey the current state of AI education in K-12 and discuss what computing professionals can do to help advance this cause.

David S. Touretzky is Research Professor of Computer Science at Carnegie Mellon University, and the founder and chair of the AI4K12 Initiative. Dr. Touretzky received his B.A. in Computer Science from Rutgers University in 1978, and his Ph.D. in Computer Science from Carnegie Mellon in 1984. Dr. Touretzky’s current research interests are in computing education for K-12 and the development of intelligent robot programming frameworks for K-12 and undergraduate students. He is a Senior Member of AAAI and in 2006 was named a Distinguished Scientist by the ACM.