

Algorithms and education: Ellis Horowitz MS'67, PhD'69 Receives the Distinguished Achievement Award

Over the course of more than 50 years, Ellis Horowitz MS'67, PhD'69 has helped define what it means to teach and study computer science. A professor emeritus of computer science and electrical engineering at the University of Southern California, Horowitz is perhaps best known for the textbooks that have shaped the field for generations — works that began as a response to a rapidly growing discipline and became foundational references for students and educators around the world. In recognition of his extraordinary contributions to computer science education, research, and leadership, Horowitz is a 2026 recipient of the Distinguished Achievement Award from the University of Wisconsin–Madison's School of Computer, Data & Information Sciences (CDIS).

A career built on fundamentals

Horowitz arrived at UW–Madison originally intending to pursue a PhD in mathematics—, drawn by the department's storied reputation. But a new field was taking shape, and it caught his attention. "The thing that attracted me, and I think so many people, was programming," he recalls. "We really enjoyed the ability to give instructions to the computer and have them carried out." He earned both his MS (in 1967) and PhD (in 1969) in computer science from UW–Madison, helping to establish the program's early identity. He ultimately joined University of Southern California, where he would spend 51 years as a faculty member.

One thread running through Horowitz's career is his commitment to making computer science learnable. His co-authored textbooks — *Fundamentals of Data Structures* and *Fundamentals of Computer Algorithms*, both written with Sartaj Sahni — have sold hundreds of thousands of copies and remain among the most cited works in the field.

"We wrote them at a time when there was tremendous growth, both in interest in computer science and in enrollments," Horowitz says. "Data structures and algorithms were becoming required courses in the undergraduate curriculum, and the books met those requirements at the right time."

That timing, combined with a rigorous and accessible approach to pedagogy, gave the books a staying power that few academic texts achieve. For many computer scientists, cracking open a Horowitz and Sahni textbook was an early rite of passage.

In a field that touches nearly every aspect of society, Horowitz encourages today's students to broaden their perspectives. "Computing has become a central capability across almost all disciplines," he says. "College is a perfect opportunity to explore those broader interests and combine them."

A Wisconsin beginning and a lifetime of impact

For Horowitz, UW–Madison is not just an alma mater: It's where his life took shape. He met his wife, Maryanne, a historian and professor in Madison, and they have been married for more than 56 years.

Horowitz also reflects warmly on the culture of his graduate years — the mixing of students and faculty, the sense of intellectual community that he has tried to carry forward throughout his career. "Being able to work with students," he says, "is really one of the most wonderful aspects of being a professor. Doctors face people who are ill. Lawyers face people who are in trouble. We face people who are bright, young, and interested in our subject. Who could ask for something better?"

Horowitz's career is a testament to what it looks like when a scholar commits fully — to students, to the discipline, and to the idea that getting the foundations right matters. His textbooks gave a generation of computer scientists their footing. His leadership helped build and sustain one of the country's leading computer science departments. And his own story began right here, in Madison, where a math student wandered into a new field and never turned back. We are proud to celebrate Ellis Horowitz with the 2026 CDIS Distinguished Achievement Award.