

Catherine Crawford

IBM Distinguished Engineer

When Catherine “Cait” Crawford joined IBM, her first mentor at IBM Research was a legend: Fran Allen, the first female IBM Fellow and the first woman to win the prestigious A.M. Turing Award, given for major contributions of lasting importance to computing. “To me, she will always be what an IBM Fellow is,” says Cait. “And so, many years later, to be named an IBM Fellow is just incredibly humbling. I never really imagined being an IBM Fellow.”

The daughter of a butcher and a nurse, Cait was the first in her family to go to college—at the school she calls “the most amazing institute in the world,” M.I.T. She went on to get her doctorate in engineering at Princeton. After arriving at IBM, she jumped into some of the biggest technological challenges of our time, including designing a supercomputer capable of performing 200 quadrillion floating-point operations per second. Now she is focusing on systems both large and small, to harness the power of machine learning and artificial intelligence to solve the world’s most pressing and enduring problems.

“I didn’t go to IBM Research to solve small problems,” she says. “It was always about solving really important problems.”

Today, Cait, who lives in Bedford, New Hampshire, mentors many young women interested in careers in technology and science. She makes a point to underscore the value of four key ingredients: a core STEM education, stamina, an innovative spirit and what she calls “organic curiosity.” As she tells her mentees, “those things will take you very far—and you can have a lot of fun.”

She also tells young women to be ready to fail, that it’s an essential part of being a success in research. “You have to be willing to take that step off the ledge and potentially fail,” she says. “You’re going to face-plant sometimes—I’ve had multiple ideas that have failed in my career. Luckily I work in a place that lets us get up again and go ahead and try that big thing again, and with amazing people who continue to work with me on the next venture.”

That’s why Cait believes one of the most essential traits of an IBM Fellow isn’t success, it’s humility. “The hallmark of an IBM Fellow in my mind—and what I’d like to carry forward from people who I knew like Fran Allen—is you have to be humble. You really do,” she says. “You have to know that you’re going to continue to learn. And sometimes, even though you may be the most senior person on a project, you have to focus on learning from the real experts in the room. This is when we have our greatest impact as technical leaders—demonstrating by example how to pivot to the needs of clients and not being afraid of changes and diversity of ideas.”

That’s why Cait still spends time every day writing code—lots of it. “We have to be as technical as we can be,” she says. “The role of an IBM Fellow is not to dictate, but to get people energized to go solve those big problems.”

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