

Celebrating Women Innovators

Dr. Cynthia Kaschub **Principal Engineer, Intel**

Cynthia is a Principal Engineer in Intel's Visual Computing Products Group, where she currently leads User Experience (UX) for Video Analytics. Previously, she led UX for Intel's Autonomous Vehicle Data Center Research & Development Platform. Cynthia is passionate about increasing women's representation in the tech industry. She is co-founder of the Women in Big Data Forum, and serves on the Advisory Board of the Big Data Certificate Program at Rutgers University. Cynthia has a PhD in Cognitive Psychology from University of Florida.



Academic Years

Cynthia Kaschub spent most of her childhood in Connecticut. Her father, whose career roles included lawyer and corporate executive, was a source of inspiration.

“During our family dinners, I remember listening with curiosity as he talked about life in the corporate world. He took me on business trips and I watched him address thousands of people at conferences.”

Looking back on high school, Cynthia recalls, “it was a formative, rebellious time for me. I hadn't yet realized the value of academic rigor but I gained something else of importance—I found my voice.”

During a recent STEM presentation to students at an Oakland high school, Cynthia told them about her own experience at an all-girls high school where everyone commuted in and everyone wore the same uniform. That created a level playing field, which was a good thing, but she wanted to differentiate herself so she leveraged her public speaking ability.

It was at Boston College that things really started to fall into place for Cynthia.

“I didn't like my Intro to Psych class, but my teacher was inspiring. She had a book club off campus, and participating in that actually got me more engaged in school.”

Cynthia was also intrigued by the way her Statistics professor presented information by looking at data in light of social and behavioral constructs.

Influential Mentors

“I began to realize you could operationalize and run statistics on behavior patterns. It's about operationalizing and analyzing behavior.”

One of Cynthia's early and influential mentors at Boston College was Dr. Lisa Feldman Barrett, her college advisor and Statistics professor.

“She suggested I could join her research lab as an assistant. Her weekly meetings focused on discussing the work of the lab’s undergrad and doctoral students. She ran those meetings the way a corporate executive would. It was a model that I’ve tried to internalize.”

“I did tactical work while learning the subtleties of research, and in particular, emotion research, and idiographic data. I also began to understand how psychology theories are created and how I could participate.”

“When I confessed to Dr. Barrett that I had no idea what I was going to do next, she said, ‘You don’t think like other students, you need to go for your PhD.’ She recognized my potential before I did. I’m glad I listened.”

Cynthia earned a master’s degree in Experimental Psychology at Villanova University. She found a mentor there who was open to her idea to translate traditional perceptual psychological theories to emotion, and she began to focus on emotion and attention theory.

“When we design and engineer technology to solve challenges, we have to look at both physiological and emotional responses to use of the technology. We have to ask ourselves, does this emotional content capture our attention, and how long does it take to disengage? We’ve been dancing around the question of how to measure emotional response for some time.”

A Turning Point

Cynthia went on to earn a PhD in Cognitive Psychology at the University of Florida, which she described as “a hotbed for post-doctoral psychophysiology research.” Realizing her goals lay beyond academia, she pursued applied research areas and conducted medical simulations at the university’s medical school.

Cynthia worked with design engineers who were developing simulations of systems used in the medical school’s anesthesiology program. That work led her to the university’s Computer Science department. Among the department’s visiting speakers who caught Cynthia’s attention was Yvonne Mazakowski.

“Her doctoral dissertation focused on categorizing acoustic signals to derive neonatal health of whales. It paved the way for her later acoustic work in the submariner decision-support domain at NAVSEA, a major command system within the U.S. Navy. I wanted to understand how she transitioned her research work from academia to NAVSEA.”

“I told her I had funding and asked if I could work with her at NAVSEA. Initially, she said, ‘I don’t take interns, no.’ But I persisted, and she finally relented.”

Cynthia helped Dr. Mazakowski in developing and evaluating decision-support tools that would allow submariners to accurately detect and respond to threats.

“Sonar operators traditionally had to sit and watch the waterfall display for hours on end. They needed tools that would help them to better detect and analyze potential threats without being overwhelmed by the technology.”

Joining Intel

Inspired to get more involved in tech and work with engineers, Cynthia took a job within Intel’s PC client group in Portland, Oregon in 2008.

“At the time, I was the only female on the software engineering team. Their past experience working with UX research hadn’t been positive, so I held informational interviews with the stakeholders to get the lay of the land. Then I developed a taxonomy of terms for different types of research that could be

done relative to software development milestones and the types of product impacts that could be expected. That approach enabled me to show the value of doing research earlier in the process.”

A few years later, Cynthia moved to the Perceptual Computing team, conducting research to define gesture sets people would later use to interact with virtual objects, and to define the human-computer interaction for voice-controlled computers.

Adobe, The Cloud, and Patents

That work led Cynthia to a new opportunity at Adobe Systems, where she was awarded two patents for her work on Adobe Creative Cloud (now called Creative Cloud Libraries).

“The company was moving from boxed software to a cloud-based subscription model. This sparked demand for new, collaborative workflows for web designer-developer teams working in the cloud. My research included interviewing people in different industries and business roles, understanding their data types and success metrics from a big data perspective, and identifying opportunities to help Creative Cloud and Marketing Cloud teams work together. That research supported Adobe’s efforts to move the design discipline forward to become data-empowered design.”

While the world was looking for ways to leverage big data in decision-making, Cynthia began to study business analytics. Meanwhile, Intel had invested in BlueData, and they offered her a position as a Technical Program Manager.

Intel and Autonomous Tech

“As a Technical Program Manager for BlueData, I quickly learned that enterprises needed software platforms that would enable them bring up big data clusters quickly so they could experiment to attain the best set up for their use case.”

After taking maternity leave, Cynthia landed a job as UX lead for Intel’s Autonomous Vehicle Research and Development Platform team. They worked on a software platform to analyze big data collected from the company’s research and development cars.

“The technology involves lots of sensors (radar, video, LiDAR, etc.) collective massive amounts of data that needs to be uploaded to the cloud. We were exploring new workflows and creating new algorithms where nothing existed before.”

After that, Cynthia began working on developer tools to support the creation of performant Media and Video Analytics pipelines. And most recently, she has been putting her UX knowledge and skills to work on a software platform for developing artificial intelligence models that enable computer vision in domains including autonomous vehicles.

“It requires careful exploration of our assumptions about how people behave in a new and very different, automated transportation setting.”

Leadership & Mentoring

Throughout her career, Cynthia said she has always gravitated to leadership roles of one form or another.

“If you’re the only one in the room with your skillset, you need to step up and get things done. As you advance, you need to mentor and give a voice to others coming behind you who need to be heard.”

In 2015, Cynthia co-founded the Women in Big Data Forum with this in mind.

“We responded to the concern that there were not enough women in big data technologies. It’s been a pipeline problem; we just need to fill it. It’s also been a networking and a knowledge gap problem. We began raising awareness and working with women in other parts of the industry. At Intel, at the executive level, Michael Greene helped us with funding to get started. We added services such as tech and soft skills training, a job board, blog posts. What started with 15 co-founders has grown to more than 10,000 members and 21 chapters worldwide. It’s about strong women taking responsibility and lifting each other up.”

“Nowadays we need to think inclusively when we design and develop new tech. Teams need to be multi-generational, men and women, interdisciplinary in their knowledge and skills. No one can live in a silo anymore. You need to work in different domains, on teams with different disciplines, and learn what your superpowers are that you can bring to the table.”

She recalls a wise bit of advice a male colleague once offered during an annual performance review, the first step of which was to write a self-evaluation.

“He offered to read mine before I shared it with our manager. To this day, I still remember his feedback: ‘Don’t assume others will value your work if you cannot articulate the value and claim it yourself.’ He did this even though it might mean that he’d get a smaller slice of the compensation pie available for raises for our team. When I share this experience with women, my message is to look for genuine allies who will support your career path.”

Today, Cynthia is building a User Experience team within Intel’s Visual Computing Products Group that she hopes will continue to grow its footprint and positive impact in the coming years.

“It takes hard work and perseverance to build a career, but everyone needs an open door when they’re starting out. I give back by looking for opportunities to provide that open door to others. I’ve tried to emulate my father in this regard.”

CAWIT is honored to feature Dr. Kaschub in our series on Women Innovators. Her creativity, intelligence, innovation and history of contributions to her field exemplify the kind of trajectory we envision for more women in technology in the years to come. Learn more at cawit.org.