# From Eye Tracking to AI-Powered Learning

**NAME**
**Sam Zheng**

**BACKGROUND**
**Prior to co-founding DeepHow, Zheng dedicated more than a decade to driving digital innovation across various industries at Siemens. Noteworthy projects include the Cloud Digital Inspection Jacket.**

**CURRENT JOB TITLE/EMPLOYER**
**CEO and Co-founder, DeepHow.**

**EDUCATION**
**Ph.D. in Engineering Psychology and a master's in Statistics from the University of Illinois at Urbana-Champaign.**

**M**Y JOURNEY THROUGH the intertwining worlds of computing and manufacturing began, unexpectedly, in the halls of the University of Illinois at Urbana-Champaign. Under the guidance of my doctoral advisors, Professors George McConkie and Chris Wickens, my fascination with technology deepened. McConkie's pioneering work in eye tracking, particularly its application during reading and perception, highlighted the dynamic dance between technology and human behavior. Meanwhile, Wickens bridged theoretical constructs with real-world applications, notably in aviation and driving, revealing how intricate systems influence human attention.

Post-Ph.D., I joined Siemens Corporate Research in Princeton, NJ. My team and I consistently explored ways to empower individuals through advanced technology and digital innovation. However, one project stood out, crystallizing my commitment to bridging technology and humanity. We developed Assisted Visual Interactive Notepad (AVIN), an eye-typing interface designed, in part, for the brilliant Professor Stephen Hawking. This was not just about creating a functional tool; it was about providing a voice, a means of expression, to those rendered voiceless by circumstances.

Fast-forward a few years, as the manufacturing landscape rapidly changed, I observed a growing disconnect. Traditional text-based standard operating procedures (SOPs) were losing traction in the face of evolving digital expectations. Workers in the manufacturing realm, with their hands-on roles, needed a more modern, interactive, and efficient way to learn and adapt.

This was the seed that eventually grew into DeepHow. Rather than being just another digital tool, DeepHow symbolized a paradigm shift in workplace learning. At its core, the platform uses AI to transform raw video content into interactive instructions. It is a method that resonates with today's workforce—immediate, visual, and engaging. But the platform goes beyond mere engagement. By focusing on visual and experiential learning strategies, we ensure knowledge is not simply imparted but internalized and applied.

But what makes DeepHow genuinely innovative is its agility. Any smart device can capture processes, which are then seamlessly uploaded to the cloud. From there, our AI springs into action, segmenting the content into digestible, actionable steps. This approach does not just elevate content; it transforms the very essence of onboarding and upskilling. What were once considered tasks have become immersive experiences, reflecting the preferred learning style of today's professionals.

As the CEO and co-founder of DeepHow, I see our work as more than technological advancement. It is a mission, stemming from my academic roots, to reimagine learning in the skilled trades. By making expert knowledge accessible without the need for hefty investments or setups, we are democratizing the learning landscape. Now, regardless of location, learners can watch experts, grasp complex nuances, and refine their skills.

DeepHow's essence is more than its algorithms and pixels. It embodies a new vision of knowledge dissemination and absorption, focusing on efficiency, clarity, and inclusivity. It is about creating a future where learning barriers are minimal, and the journey toward expertise is smooth and intuitive.

Reflecting on this journey, from my early academic days to the world of startups, the threads of innovation, purpose, and a genuine desire to make a difference remain constant. As the excitement around AI continues to surge, DeepHow is a testament to the potential of computing in transforming industries, particularly in manufacturing, and making a tangible difference in people's lives.