AI4HT

WEBINAR AI FOR HEAT TRANSFER WEBINAR SERIES

The Full-Stack Thermal Engineer

Applying AI to Deliver Net-Positive Impact



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TIME
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1:00–2:00 PM ET · Online

ABSTRACT

In the age of AI, the information technology stack, from user interface to database, is rapidly accelerated through automation. This shift creates a strategic opportunity for the physical sciences. Engineers specializing in solid and fluid dynamics, heat transfer, and complex hardware can now move "up the stack" to become full-stack physical technologists. Today, a practitioner in heat transfer can be a system-level developer who applies AI not just to thermal design, but to the entire cyber-physical system. Indeed, this full-stack approach differentiates system performance and delivers a net positive impact measured in Joules.

In this talk, I will explore the application of AI in complex cyber-physical systems, such as modern data centers, where heat transfer is the ultimate differentiator. In an era of hardware-software co-design, physical technologists must move beyond isolated roles to shape end-to-end solutions, using available energy in Joules as our definitive measure of success. Remaining siloed is no longer viable.

ABOUT THE SPEAKER

Chandrakant Patel pioneered innovations in thermal management of chips and systems, energy-efficient computing, sustainable data centers, and cyber-physical systems. He has taught engineering for more than 16 years and received 165 patents. He is an IEEE Life Fellow, ASME Fellow, ASME Honorary Member, Fellow of the National Academy of Inventors, Member of the National Academy of Engineering, and an inductee of the Silicon Valley Engineering Hall of Fame.

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