

演講題目：

From Artificial Intelligence to Real-World Impact: Fundamentals, Applications, and Opportunities

演講摘要：

Artificial intelligence (AI) has rapidly evolved from a research-oriented technology into a powerful tool with applications across healthcare, manufacturing, finance, and other industries. This speech introduces the fundamental concepts of artificial intelligence, machine learning, and deep learning, together with major learning paradigms including supervised, unsupervised, and reinforcement learning. It then connects these concepts to practical applications such as credit risk prediction, automated optical inspection, generative AI, and AI-assisted medical image analysis, with particular emphasis on the use of deep learning for medical imaging and clinical support. Drawing on practical research and development experiences, the talk also discusses key challenges in translating AI from academic research into real-world applications, including data availability, annotation requirements, domain knowledge, and regulatory constraints. Finally, emerging opportunities for students and researchers in the AI era will be highlighted, emphasizing the importance of integrating data, technology, domain expertise, and real-world needs to create meaningful impact.