地球科學前沿深度學習應用
THE FRONTIERS OF DEEP LEARNING FOR THE EARTH-SYSTEM SCIENCES

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摘　要

這次的研討會將討論人工智能的最新發展，及其在地球系統建模和環境科學領域的應用。 AI 發展非常快速，為了簡要介紹當前的最新資訊，將從多個角度探討了該主題。第一部分將介紹全球在地球科學領域，相關的啟動計畫和趨勢，然後討論一些最近人工智能在環境科學中最重要和最有趣的應用。在第三部分，我們將討論將人工智能應用於科學時出現的一些挑戰。最後，分享近年的重大的人工智能突破，這些突破定義了人工智能的下一步發展方向，並且介紹可能對天氣和氣候研究人員有用的新工具。

關鍵字：AI, Trend, Frontier, PINN, HPC+AI, Tools

Abstract

This talk is designed to share about some of the latest developments in artificial intelligence and its application to the fields of Earth System Modeling and the environmental sciences. AI evolves quickly and it's hard to keep up. To give a snapshot of its current state, this talk approach the subject from several perspectives. The first section, it will cover recent global initiatives funneling funding and resources to this field. Then discuss a few of the most important and interesting recent applications of AI for the environmental sciences. In the third section, we will discuss some of the challenges that arise when applying AI to science. In the end, this talk will cover some major AI breakthroughs that define where AI is headed next and share some new hardware and software tools that I think are likely to be useful to weather and climate researchers.

Key words: AI, Trend, Frontier, PINN, HPC+AI, Tools