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“Mathematics and Machine Learning”

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Machine learning - or more colloquially AI - is found today in almost all areas of modern technology, science and society. While many people now have at least a vague idea of what machine learning is, and there are now many applied machine learning specialists in the world, a rigorous overview of the field and its key challenges and successes is not always available to mathematicians curious about the field. In this talk I will give a mathematical survey of some historical and current developments in AI. I will, in particular, offer high-level descriptions of some current paradigms in the field and discuss how mathematics offers insight into these. Finally, if time permits, I will discuss the prospect of AI being used someday to assist mathematicians.