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Author: Mr. Xiangyuan Ma  
University of Toronto, Canada

DEEP LEARNING TECHNIQUES FOR RADIO TECHNOSIGNATURE SEARCHES

**Abstract**

Modern radio astronomy instruments generate vast amounts of data, and the increasingly challenging radio frequency interference (RFI) environment necessitates ever-more sophisticated RFI rejection algorithms. The 'needle in a haystack' nature of searches for transients and technosignatures requires us to develop methods that can determine whether a signal of interest has unique properties, or is a part of some larger set of pernicious RFI. To tackle this growing problem recent advances in deep learning has shown promise in aiding in our search efforts. In this talk we discuss the development of deep learning techniques for a "forward" search to discover anomalous candidates and as well as a "backward/reverse" search to then verify anomalous candidates once they have been flagged. We aim to introduce a more comprehensive pipeline to automate signal discovery and verification.