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Deep neural networks for real-time detection and characterization of gravitational waves from compact binaries PLAMEN KRASTEV, Harvard University — Deep neural networks are computational models with the ability to learn from observational data and have already had spectacular success in tasks such as computer vision and natural language processing. I present a deep learning framework for real-time detection, classification and parameter estimation of gravitational waves from compact binaries, with a particular attention to systems involving neutron stars. The implications for detection and interpretation of recent and future gravitational-wave signals from neutron-star binaries, and the equation of state (EOS) of dense matter will be discussed.

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