

## **Data Science in Relativistic Astrophysics, 3-More networks and more areas**

*Thursday, 4 November 2021 17:40 (45 minutes)*

More networks and more areas

Based on the first two tutorials, we introduce more types of neural networks applied to more kinds of astronomical data.

In the above example of inferring redshift from SDSS data, we build simple but efficient 1D CNN networks and obtain accurate results. We further complicate the CNN network by introducing advanced structures such as Residual, Attention, etc., and applied the latest networks from the industry field to the same data to infer redshift, and to test whether the accuracy has improved.

Secondly, we make a brief introduction to gravitational wave and gamma-ray burst data, and transfer the above networks to the machine learning subjects of gravitational wave and gamma-ray burst. Astronomical data are nothing but temporal and spatial data, we hope this short tutorial can broaden the horizon and be able to build the network flexibly.

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