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# Unfolding ATLAS Collider Data with the Novel OmniFold Procedure

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To perform theoretical calculations and comparisons with collider data, it must first be corrected for various detector effects, namely noise processes, detector acceptance, detector distortions, and detector efficiency; this process is called "unfolding"in high energy physics (or "deconvolution"elsewhere). While most unfolding procedures are carried out over only one or two binned observables at a time, OmniFold is a simulation-based maximum likelihood procedure which employs deep learning to do unbinned and (variable-, and) high-dimensional unfolding. We apply OmniFold to a measurement of all charged particle properties in $Z$+jets events using the full Run 2 *pp* collision dataset recorded by the ATLAS detector to complete the first application of OmniFold on physical collider data.

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No

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