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## Deep Learning on Imaging Calorimetry <sup>[1]</sup>

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Particle reconstruction is a significant task in analysis of CMS data. Currently physics based algorithms in conjunction with CMS readouts are used. In this project we explored deep learning as a technique for photon identification and reconstruction on the public LCD CaloImage dataset. Several network architectures were tested for performing classification (photon vs pion discrimination) and regression analysis of energy of particle hits. The performance of the topologies were plotted and compared.

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calorimetry

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[1] [http://test-static-05.web.cern.ch/publications/technical\\_documents/deep-learning-imaging-calorimetry](http://test-static-05.web.cern.ch/publications/technical_documents/deep-learning-imaging-calorimetry)

[2] <https://zenodo.org/record/208488>