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Dark Machines - using machine learning to solve dark matter related problems

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Dark Machines is a research collective of about 200 physicists and data scientists, who use state-of-the-art machine learning techniques to solve dark matter related problems. These problems are typically organised as challenges: physicists provide datasets and the machine learning experts try to solve the problem in the best possible way. A few of the current focuses are particle track reconstruction, analysing full sky gamma-ray for detecting, localising and classifying point sources, parameter estimation for strong gravitational lensing and collider searches for new physics using machine learning. Additionally, we are building data visualisation tools and storage tools that help the community sharing their work. In this talk I will give an overview of the challenges and the machine learning methods that are used to solve them,

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