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Collaborations in ML: A Study in Scarlet

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Robust, stable collaborations are a challenge to create in highly technical fields, particularly in situations where funding streams are unreliable. Difficulties can be found in technical, organizational, and legal spheres; these can include: language differences, differing data formats, and legacy work. Creating a collaboration for machine learning in accelerators is particularly challenging due to the variety and unclear scope of member interests. This includes the volume of data and data sharing, model development and sharing, and workflow sharing. There is also a significant need to develop a trained, expert workforce. Presented here are the preliminary results of research about ML usage in US accelerator facilities, as well as challenges facing any large-scale software collaborations in the government sphere. This includes examinations of collaboration models already in the space, such as used in control systems and experimental data sharing, and funding and organizational agreements that have seen success.

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