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Who threw that rock? Tracing the path of martian meteorites back to the crater of origin using ML

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We created an ML pipeline able to efficiently detect craters in a large dataset of georeferenced images. We used it to create a detailed database of craters on rocky bodies in the solar system including Mars. The Mars crater database was of sufficient detail to enable us to determine the likely origin of a number of meteorites that we have collected on Earth. As a consequence, it is possible to get a better picture of the early formation processes of Mars using a sample from Mars, before the first sample-return mission has been organized. In this presentation, we will see how we have structured our pipeline and the technologies used to produce that data product.

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