Contribution ID: **15** Type: **Regular talk**

MXAimbot - AI-based sample centering for macromolecular crystallography

What is this?

MXAimbot is a neural network based tool currently in development, designed to relieve researchers of the task of manually and individually centering their samples in synchrotron beamlines for macromolecular crystallography.

How does it do that?

It is a pretty simple CNN trained on a few thousand images from a camera pointed at the loop which holds the samples. These images are annotated with coordinates, height, and width.

Why?

Because the other two alternatives are

1. Manual centering by humans, which is boring and tedious and consumes researchers valuable time.
2. X-ray centering, which can cause radiation-damage the crystal.

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