LaTeX ("Lamport's TeX") is a typesetting system used to render mathematical expressions. It renders specific sequences of plaintext: for example, the phrase "`x = {-b \pm \sqrt{b^2-4ac} \over 2a}.`" will be rendered as the quadratic equation. This allows for both full LaTeX documents, as well as embedding within other files, such as PDFs and HTML. As such, it is one of the most widely used tools for rendering mathematics and science-related special characters, and sees significant use within academic circles.

Although LaTeX syntax is quite intuitive, the staggering number of characters supported by the language and its libraries makes it difficult for beginners. For example, the `/prod`, `/Pi`, and `/pi` characters are rather similar in both their syntax and appearance, but have very different use cases. Memorizing each and every one of LaTeX's thousands of commands, including many which are so similar, is a daunting task.

Therefore, I propose the creation of a Tensorflow image recognition model which would recognize handwritten mathematical characters and supply the user with their LaTeX equivalents. Users would be able to sketch a desired character (for example, a "π" shape) and receive the commands which best match the sketch ("`/pi`"). This CNN would use open-source data available from the Detexify project. Tensorflow's Keras API will be used to create the model, while the Numpy and Pandas libraries will be used to load and process the data into a format usable by the model.

Although a website with this functionality already exists, a Tensorflow model will allow for use of this tool in desktop applications and other webpages, as well as tuning and modifying it for other uses.