**Conclusion:**

In this project, we developed a convolutional neural network (CNN) model to predict whether a cell is infected or not based on microscopic images. Our model achieved high accuracy in detecting cellular infections, demonstrating the potential of machine learning techniques in biomedical research and clinical applications.

While our model has shown promising results, there are still some limitations that need to be addressed. These include the limited size of the dataset, which could potentially lead to overfitting, and the need for further validation on larger and more diverse datasets. In addition, the interpretability of CNN models can be challenging, and it may be beneficial to explore alternative methods to interpret the features learned by the model.