CS Rubric – Viral X-Ray Recognition

DS 4002 – Spring 2023 - Professor Alonzi
Submission format: Upload link to github repo to canvas

Individual Assignment

General Description: Submit a link to your Github case study repository in Collab assignments.

Preparatory Assignments - CS1 and CS2 will give you good context for how case studies can be approached.

Why am I doing this? These case studies are intended to give you real-world context problems in order to apply your theoretical knowledge. By thinking like a data scientist, you can develop actionable solutions to whatever problems you may encounter in the future. In this context, the application is within the medical industry. However, these types of scenarios are becoming far more common in a world driven by machine learning and AI. While completing the case study, you are encouraged to research the topic at hand - image recognition and machine learning.

- Course Learning Objective: Analyze image data and build an accurate model
- Course Learning Objective: Synthesize relevant ideas and findings in a repository
- Course Learning Objective: Apply learned theory from the classroom into a real-world scenario

What am I going to do? You will start by reading this document in its entirety, including the prompt and the rubric (which is this page). In the prompt, you will be given the task at hand. Some models are recommended for machine learning recognition over others - such as the Convolutional Neural Network (CNN). It's recommended to research this method first to at least gather context surrounding the types of methods you could use. Of course, this project is entirely yours, so you are by no means required to implement the suggestion. Do your own research and find the method that seems most appropriate for you. The deliverable here will include a Github repository of your code, within which your model will exist. In the repository, you will also include your findings - the meaningful results from your machine learning algorithm.

Tips for success:
- **Do your research**: Look at similar image recognition examples in the real world and how you could replicate them.
- **Seek assistance if you need it**: If you don't know how to implement the type of method you want, always research. If it still doesn't help, use your resources to help you, which in this instance is Professor Alonzi and the TA.
- **Have fun**: This project is low-stakes but intended for you to see how you can use the in-class methods to tackle a real problem. Build the model however you like and enjoy.

How will I know I have Succeeded? You will meet expectations on this case study once you have accomplished all of the criteria in the rubric below.

Spec Category	Spec Details
Formatting	Repository - a Github repository (and cloud storage folder if necessary) containing all materials ● Submit a link to the repository ● Everything is contained in the repository or linked to it if appropriate ● Use pdf format when possible ● For code and data products use the appropriate format for whatever it is
Github Repository	Goal: Explain the purpose of your model and the overall findings Contents ● README.md on project overview, background research, links, etc. ● SRC folder including original source data ● CODE folder including all of your code for the project ● Figures/images used for the project ● LICENSE to explain your repository and the terms of sharing your findings ○ Use MIT license format

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