Deep Learning Project Proposal

Question/need:

- What is the framing question of your analysis, or the purpose of the model/system you plan to build?

  The purpose of the model I plan on building is to detect lung cancer from microscopic images of lung tissues.

- Who benefits from exploring this question or building this model/system?

  Doctors and patients would benefit from this model. Maybe this model could detect lung cancer earlier than doctors can and patients can have a higher chance of recovering.

Data Description:

- What dataset(s) do you plan to use, and how will you obtain the data?

  I plan on using the Lung and Colon Cancer Histopathological Images dataset from Kaggle.

- What is an individual sample/unit of analysis in this project? What characteristics/features do you expect to work with?

  An individual sample of analysis in this project will be an image of a lung tissue. I expect to work with image features.

- If modeling, what will you predict as your target?

  I have 3 target variables for my model: no lung cancer, lung adenocarcinoma, and lung squamous cell carcinoma. The latter two variables are two types of small cell lung cancer.

Tools:

- How do you intend to meet the tools requirement of the project?

  I will use Keras for building the neural network model.

- Are you planning in advance to need or use additional tools beyond those required?

    I am planning to use Google Cloud for storage and processing. I have not thought about what visualizations I can use for my project yet.

MVP Goal:

- What would a [minimum viable product (MVP)](#) look like for this project?

    A MVP for this project should consist of a baseline neural network model.