Fall 2021 **Final Project Report Total = 65pts**

1. **Introduction** [15pts]: State the problem and why it is important. [5pts]. Describe the background of the problem (cite papers at least 5 of them) [5pts] and also, write what each paper addressed (one-two sentences). [5pts]

**Introduction**

This project ended differently than it began. I began with the idea of translating error messages to Spanish, then shifted to classifying python compiler error messages, and ended up classifying C compiler errors (see *Analysis* section for why). The problem of classifying compiler errors was a small step towards making compiler errors more useful. Compiler errors are notoriously cryptic and not very useful (especially for beginner programmers), so almost any improvement would be helpful. By classifying the errors, the goal was that the solutions for errors within each class of errors would be similar to the solution for other errors in that class. That way, if a user knows how to fix even a single error within a class, they could have a rough idea of how to fix any new error that arises that has the same class.

Papers:

2. **Model** [10pts] Describe the model that you are creating to solve the problem [5pts]. Give example to explain your model [5pts].

**Model**

My goal was to create a deep neural network to classify the errors, because sometimes the error belongs to multiple error classes, making this a multi-label classification problem. Most of my reading suggested that for multi-label classification, only NNs gave consistently good results. However, I was unable to complete a working model,

3. **Analysis** [20pts]: Describe data (from where did you extract data)? [5pts]. What the methods that you applied ?[5pts] How did you evaluate your methods?[5pts] What are the performance related measures that you used to validate your methods[5pts]. You may show plots to justify your answer. You may copy and paste from Jupyter notebook to explain the analysis.

**Analysis**

.

4. **Conclusion** [5pts]: Clearly state and describe what inferences that you could draw from the experi-mentation of the model. How successful were you in addressing the problem.

**Conclusion**

.

5. **Reflection** [5pts]: a) What did you learn while working in the project-concepts and critical thinking? Your instructor was a facilitator [2.5pts] b) If you had another 6 months, what additional analysis that you would have worked on? [2.5pts]

**Reflection**

.

6. **Organization and professionalism** [5pts]. You are expected to do spell check. Use correct grammar and coherent sentence structure in the report.

7. **Code and Data upload** [5pts]. Upload the code and data send a link to the GitHub project in which you have stored the code and data or you can give me access to the folder in google drive.