

# Self-Assessment

## Part A

### My Contribution

Since I was the only member of my group, I completed all project work under the guidance of my advisor. My contribution was mainly the implementations of the GMN and S-GCN networks, along with the pipeline that trained and evaluated them. Additionally, last semester I implemented a feature selection framework described in a previous paper and a comparison of other ML models on the FC fingerprinting task. I applied and built upon the necessary skills that I outlined last semester. First, I greatly improved my skill in PyTorch in order to implement the neural networks. Also, I improved my understanding of the networks and, in turn, my ability to understand the ideas presented through research papers. Finally, I improved my skills in building functionality for training and evaluating models as part of a machine learning pipeline.

### Successes and Obstacles

My main successes were the implementations of the GMN and Siamese GCN, along with the pipeline that trained and evaluated the models. I compared the performance of the models and fixed issues I encountered in training the models. I also had many obstacles. These are the largest networks I have implemented, and I had to greatly improve my PyTorch abilities. Also, training the networks was a large obstacle. There were initially numerous issues when training the models such as unstable loss curves and shared changes in training and validation accuracy. I mitigated these issues through a variety of training parameters and additions to the pipeline such as effect batch size through gradient accumulation. While these obstacles impeded progress, they also provided an opportunity to further develop my skills in the area of deep learning.

## Part B

### Group Work

The group accomplishments consist of what I have described above since I was the only member of this project. While this was technically not a group project, I learned much about working on my own under the guidance of an advisor. I had to adjust in certain ways in order to find success in this kind of work. I learned many lessons. First, frequent communication on my part with the advisor is vital for this sort of research project. I also learned how to describe complex ideas in an efficient way with my advisor, and how to approach complex tasks and report results in a clear manner. I will use these lessons throughout my career and likely again in an academic setting. I have no teammates to give special recognition to, but I would give special thanks to my advisor for putting in the time and effort to guide me.