**Interim report**

1. **Title**
   1. **A study of Poker bots and the existent models’ behaviour**

The title of the project has not changed since the November project plan report. Therefore, both the up-to-date title and the title from that report are presented above.

1. **Progress made and remaining work**

This project contains three main parts, expressed chronologically:

- research

- implementation

- report

The research part of the project involves finding out about state-of-the-art techniques and methods for creating poker bots. Since the heads-up game has already been computationally ”solved” by bots, more interest lies on the full-ring game. More approaches have been discovered, including machine learning algorithms which try to learn the game from a mathematical perspective. Most of the bots that are already out in this field are programmed to behave well against other bots or random players. There is no bot that is specifically designed to play against humans. With this concept in mind, an algorithm which tries to mimic a poker player’s thought has been found. Next, this algorithm has to be implemented.

Implementation is the longest-lasting part of the project, since the poker-playing algorithm has to be coded from scratch. Also, apart from the algorithm itself, a framework that supports the algorithm and displays the results and gameplay has to be created, too. After some tries of designing a framework of my own, finding a suitable c++ poker framework was the key to solving this issue. As things stand now, I have the framework working and I am implementing the poker-playing algorithm on top of that. This framework has been also chosen because of the fact that the evaluation step will be much easier, since the framework allows the user to create as many instances of poker bots as wanted and to simulate as many games as wanted. In conclusion, the full implementation need to be finished as soon as possible (this week), while the extraction of results and their evaluation will happen in the next couple of weeks.

In the meantime, work has to be done for the report, as well. I plan on starting the report itself, as stated in the report plan, around the middle of February. Before starting the report, though, I need to decide on a suitable structure and make sure all the information that is going in is well documented. Therefore, as soon as I have some results with the bot itself, I can start off with writing the report. I am to finish the first draft of the report by end of March, which will give me a lot of time for repolishing and rechecking the information.