

## AI in Game Assignment 2

### Individual Contribution

In this assignment, we studied Level Generation of MarioAI Game and understood its implementation. In lab sessions we understood the Game environment and Mario Game framework. During the initial time we discovered several taught techniques were heavily researched such as GANs and Genetic Algorithms. Other popular techniques were in the domain of machine learning, and we studied and discussed on them. One of them was Probabilistic model based called Markov Chain, in which we could add constraints too. And we decided to go for the same.

In the group I worked on Probabilistic distribution concerning Markov chain and implementation of the same. Along with other configurations I dedicated myself to working of handling the difficulty and improving the game play according to level of difficulty with map generation. I also worked on the split configuration logic. For evaluation and experimental setup defining a good baseline was an important task. This setting of correct configuration and performing evaluation was essential part where I contributed.

After successfully running the level generation for 1000 times and when we were satisfied with the results, we decided on the experimental setup to be carried out for different configuration the data generation and evaluation was tasked amongst us and we finally submitted the report.