

Procedural Content Generation is now used in many games to generate a wide variety of content. It often uses players controlled by Artificial Intelligence for its evaluation. PCG content can also be used when training AI players to achieve better generalization. In both of these fields, evolutionary algorithms are employed, but they are rarely used together. In this thesis, we use the coevolution of AI players and level generators for platformer game Super Mario. Coevolution's benefit is, that the AI players are evaluated by adapting level generators, and vice versa, level generators are evaluated by adapting AI players. This approach has two results. The first one is a creation of multiple level generators, each generating levels of gradually increased difficulty. Levels generated using a sequence of these generators also mirror the learning curve of the AI player. This can be useful also for human players playing the game for the first time. The second result is an AI player, which was evolved on gradually more difficult levels. Making it learn progressively may yield better results. Using the coevolution also doesn't require any training data set.