**STEM EduX 2021 Fall and Spring Coding Program (编程项目: Learning By Doing）**

**Program Description:**

In the Fall semester, we focus on gaming, programming, and have fun with various game programs created with student participations using python.

In the Spring semester, we focus on board games, Algorithms, and how to create python programs to implement the game algorithms. In particular, we emphasize to use software programming approach to dissect the concepts behind the board game algorithms with the goal to comprehend how to create a computer software player which would win on board game competitions.

**Course Calendar**

9/11/2021 Saturday 09:15 AM --- 11:00 AM Class 1 Introduction of the Class

9/18/2021 Saturday 09:15 AM --- 11:00 AM Class 2 A Dice Rolling

9/25/2021 Saturday 09:15 AM --- 11:00 AM Class 3 Dice Rolling 2

10/2/2021 Saturday 09:15 AM --- 11:00 AM Class 4 Dice Rolling 3

10/9/2021 Saturday 09:15 AM --- 11:00 AM Class 5 Dice Rolling 4

10/16/2021 Saturday 09:15 AM --- 11:00 AM Class 6 Adventure Game

10/30/2021 Saturday 09:15 AM --- 11:00 AM Class 7 Adventure Game 2

11/13/2021 Saturday 09:15 AM --- 11:00 AM Class 8 Adventure Game 3

12/4/2021 Saturday 09:15 AM --- 11:00 AM Class 9 Game Of Life

12/11/2021 Saturday 09:15 AM --- 11:00 AM Class 10 Mad Lab

12/18/2021 Saturday 09:15 AM --- 11:00 AM Class 11 Hangman

1/8/2021 Saturday 09:15 AM --- 11:00 AM Class 12 Final

1/22/2021 Saturday 09:15 AM --- 11:00 AM Class 13 Tic Tac Toe

2/5/2021 Saturday 09:15 AM --- 11:00 AM Class 14 Tic Tac Toe 2---Recursive

2/12/2021 Saturday 09:15 AM --- 11:00 AM Class 15 Introducing Game Theory

2/19/2021 Saturday 09:15 AM --- 11:00 AM Class 16 Eight Queues---Recursive and Backtracking

2/26/2021 Saturday 09:15 AM --- 11:00 AM Class 17 Tic Tac Toe---Minmax Algorithm

3/5/2022 Saturday 09:15 AM --- 11:00 AM Class 18 Tic Tac Toe---Minmax Algorithm 2

3/12/2022 Saturday 09:15 AM --- 11:00 AM Class 19 Tic Tac Toe---Using Minmax Algorithm

4/9/2022 Saturday 09:15 AM --- 11:00 AM Class 20 Tic Tac Toe---Evaluation Function in Game Theory

4/16/2022 Saturday 09:15 AM --- 11:00 AM Class 21 Tic Tac Toe---Evaluation Function 2

4/30/2022 Saturday 09:15 AM --- 11:00 AM Class 22 Tic Tac Toe---Using Evaluation Function

5/7/2022 Saturday 09:15 AM --- 11:00 AM Class 23 Tic Tac Toe---AI-How to Find Optimal Move

5/14/2022 Saturday 09:15 AM --- 11:00 AM Class 24 Tic Tac Toe---AI-Programming and Final Summary