

BIT@FK

SEPT 2021 EDITION

Faculty of Computing



اونيورسيتي مليسيا فھڠ
UNIVERSITI MALAYSIA PAHANG
FAKULTI KOMPUTERAN



Bulletin highlights

+ ICSECS-ICoCSIM 2021

+ MTE AWARDS 2021

+ INDUSTRY & FRGS GRANTS

+ CHINESE BRIDGE COMPETITION MALAYSIA 2021



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Short Course by FK: Reinforcement Learning on Video Game

By:
Dr. Mritha Ramalingam

PEKAN, 18 August 2021 - A short course training on Reinforcement Learning on Video Game was organized by FK and conducted virtually by FK academicians, Ts. Dr. Azlee Zabidi and Ts. Dr. Mohd Izham Mohd Jaya on 16-17 August 2021. The workshop included the content of how to use the power of artificial intelligence to play a video game. The participants were able to learn and apply reinforcement learning to play Retro games such as Nintendo, Genesis and Sega.

SHORT COURSE BY FACULTY OF COMPUTING, UMP 2 days course

Reinforcement Learning on Video Game

UFR Ico 

COURSE SYNOPSIS

This course will introduce the use of Artificial Intelligence technique to solve computer game problem with trained agent. Participants will be introduced to basic concepts in Artificial Intelligence focusing on Reinforcement Learning. At the end of the course, participants will be able to understand the concept of RL, and apply RL to train their agent to play any genre of video games, mostly on classic video game such as Nintendo and Genesis. Application of RL is not limited to solve video game problem only. Several promising application include autonomous driving, business management, computer systems, computer vision, education, energy, finance, games, healthcare, natural language processing (NLP), robotics, "science engineering and art", and transportation. Learning methods using video games as a case are carried out to attract students to learn RL techniques in a more interesting and easy to understand.

AUDIENCE PROFILE

This course intended for:

- Individual with basic knowledge in Artificial Intelligence
- Individual with basic knowledge of programming
- Individual who has ever playing a video games.

AT COURSE COMPLETION

In this course, participants will be introduced with:

- Basic knowledge in several type of AI sources, State-Space, Form Integration, Penalty and Reward Function
- Problem solving case study (different type of video games) with RL.

COURSE CONTENT

Day 1:

- Introduction to basic Bellman Equation
- Environment object
- Random agent
- Reinforcement Integration
- Controller Layout
- Variable Exploration
- Reward and "level" setting
- Training an agent
- Applying Situations

Day 2:

- Applying DQN/actor
- Applying Double agent
- Competition between Agents

Bank Transfer To:
Account number: 5562 3530 4266
Account name: Bendahari UMP
Bank name: Maybank(Malaysia Banking Berhad), Cawangan Pekan
Bank Address: 96, Jalan Sultan Abdullah, 26000 Pekan, Pahang Darul Makmur

Please email the payment transaction slip to: azlee@ump.edu.my
Contact person: Ts. Dr. Azlee Zabidi (012-5741984)
Ts. Dr. Mohd Izham Mohd Jaya (017-485 5112)

SCAN TO REGISTER

<https://forms.gle/xfpQUM66d8AT9>

COURSE FEE
RM500 per participants
Limit to 30 Participants