



# Machine Learning and Its Application (TECS2131)

<p><b>Introduction</b></p>	<p>Starting with mathematics fundamentals and then through hands-on experiments and coding with robots, students will walk through the full path of Machine Learning by artificial intelligence (A.I.). They will also programme a robot car (Jumping Sumo), from neural network buildup in C language to data collection, model training, testing and application, to perform auto-piloting using Machine Learning.</p> <p>Installed with a video camera and fast turning wheels, Jumping Sumo can be turned into an auto-pilot car using computer vision technology and A.I..</p> <p>The course will be wrapped up by applying Google Tensorflow on the same project, so that students can experience more recent frameworks of A.I..</p>	
<p><b>Programme Type / Level</b></p>	<p>Intermediate Course in Artificial Intelligence and Machine Learning (<a href="#">Token-required</a>)</p>	
<p><b>Instructor(s)</b></p>	<p>Mr. LAU Kam Ming from Smart Kiddo Education Limited</p>	
<p><b>Pre-requisite</b></p>	<p>Linear Algebra, Computational Thinking, Basic Robotics, Basic Computer Language</p>	
<p><b>Target Participants</b></p>	<p> &gt; S1 – S3 HKAGE student members &gt; Class size: 30</p>	
<p><b>Medium of Instruction</b></p>	<p> English with English handouts</p>	
<p><b>Certificate</b></p>	<p> <b>E-Certificate</b> will be awarded to participants who have:</p> <ul style="list-style-type: none"> <li>❖ Attended <b>at least 5 sessions; AND</b></li> <li>❖ Completed all the assignments with <b>satisfactory performance</b></li> </ul>	
<p><b>Intended Learning Outcomes</b></p>	<p> Upon completion of the programme, participants should be able to:</p> <ol style="list-style-type: none"> <li>1. Understand the concept of Machine Learning and have a fair treatment about it;</li> <li>2. Build up a neural network to collect and provide training data;</li> <li>3. Perform training and test the result by real- life robots.</li> </ol>	
<p><b>Screening</b></p>	<p> Please answer the screening question in the online application form.</p> <p>*The screening question is designed to help the applicant understands the course level and the course content. The question must be answered by the student applicant and it can only be attempted once. The answer cannot be changed once the application is submitted. Selection is based on students' performance in answering the question. Only students who can demonstrate motivation and the basic knowledge of Artificial Intelligence in the screening question can be enrolled in the programme.</p>	
<p><b>Application Deadline</b></p>	<p><b>1<sup>st</sup> batch:</b> <b>12 Aug 2019 12:00 n.n.</b></p> <p><b>2<sup>nd</sup> batch:</b> <b>3 Oct 2019 12:00 n.n.</b></p>	<p><b>Application Result Release Date</b></p> <p><b>1<sup>st</sup> batch:</b> <b>23 Aug 2019</b></p> <p><b>2<sup>nd</sup> batch:</b> <b>10 Oct 2019</b></p>
<p>Student members may withdraw from the programme on or before the deadline. Otherwise, the token will be deducted.</p>		

## Schedule



Session	Date	Time	Venue
1	2 Nov	9:00 a.m. – 12:00 noon	Room 105, HKAGE
2		2:00 p.m. – 5:00 p.m.	
3	9 Nov	9:00 a.m. – 12:00 noon	Room 105, HKAGE
4		2:00 p.m. – 5:00 p.m.	
5	<del>16 Nov</del>	<del>9:00 a.m. – 12:00 noon</del>	<del>Room 303, HKAGE</del>
5	23 Nov	9:00 a.m. – 12:00 noon	Room 303, HKAGE
6	30 Nov	8:45 a.m. – 11:45 a.m.	Room 105, HKAGE

### Let's play a Guessing Game

- Guess what is the correct answer:

- $3 \odot 2 = ?$       4
- $4 \odot 2 = ?$       5
- $5 \odot 2 = ?$       6
- $5 \odot 3 = ?$       12
- $4 \odot 3 = ?$       10
- $3 \odot 3 = ?$       8

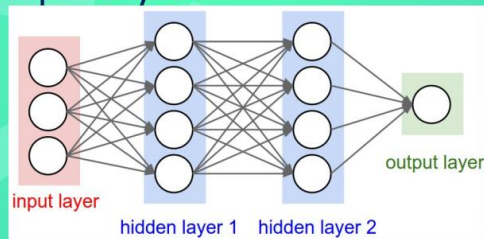
– How do you reach this answer?

– Can you think of a "simple" operation and make me guess?

### Sample Example for the Programme

### Basic Neural Network

- One Input Layer.
- One or more Hidden Layer(s).
- One Output Layer.



### Enquiries



For enquiries, please contact us at 3940 0101 after language selection, press "1".