香 港 資 優 教 育 學 苑
The Hong Kong Academy for Gifted Education

Machine Learning and Internet of Things Application – Making Innovative Smart Living Products (TECS3462)

Introduction	In light of current trend that artificial intelligence becomes more and more prevalent in various industrial and commercial sectors, this course is designed to enhance students' interest and apply machine learning methods to lever internet of things (IoT) in the development of an innovative product for smart city applications. By carrying out group design project, students' creativity, collaboration and design talent will be inspired. First, IoT scenarios will be identified. Then, deep learning classification models will be developed. Going through the whole product design process, the groups should come up with innovative products for solving real-life problems.
Programme Type / Level	Advanced Course in Artificial Intelligence (Token-required)
Instructor(s)	Mr Chris Leung (Discovery Technologies Limited)
Pre-requisite	Students are recommended to have basic familiarity with Python programming, fundamental knowledge of machine learning and IoT, and elementary 3D modelling skill.
Target Participants	➢ S3 to S6 HKAGE student members in 2020/21 school year only ➢ Class size: 20 ➢ Priority will be given to student members who have completed Intermediate Course in Artificial Intelligence: Machine Intelligence - Principles and Applications (TECS2461)
Medium of Instruction	Cantonese with English handouts
Certificate	**E-Certificate** will be awarded to participants who have: ❖ Attended **at least 6 sessions; AND** ❖ Completed all the assignments with **satisfactory performance**
Intended Learning Outcomes	Upon completion of the programme, participants should be able to: 1. describe common machine learning methods; 2. apply machine learning methods to tackle real-life IoT problems (e.g. image classification); 3. set up and write the code for artificial intelligence development board; 4. operate basic 3D modelling design and 3D printing; 5. work collaboratively and creatively to develop an innovative product for smart city application; 6. appreciate the application of machine learning and IoT to improve the well-being of people.
Screening	Please answer the screening question in the online application form. *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.
Application Deadline	**1st batch: 20 Jul 2020, 12:00 n.n.** **2nd batch: ~~2 Nov 2020, 12:00 n.n.~~ 16 Nov 2020, 12:00 n.n.**
Application Result Release Date	**1st batch: 24 Jul 2020** **2nd batch: ~~13 Nov 2020~~ 18 Nov 2020**

Student members may withdraw from the programme on or before the deadline. Otherwise, the token will be deducted.

Schedule

Session	Date	Time	Venue
1	~~6 Aug~~ 28 Nov 2020	9:30 a.m. - 12:30 p.m.	Discovery Technologies Limited[1]
2	~~7 Aug~~ 5 Dec 2020		
3	~~8 Aug~~ 12 Dec 2020		
4	~~15 Aug~~ 19 Dec 2020		
5	~~20 Aug~~ 2 Jan 2021		
6	~~21 Aug~~ 9 Jan 2021		
7	~~22 Aug~~ 23 Jan 2021		
8	~~27 Aug~~ 30 Jan 2021		

[1] Address: Unit 20, 9/F, No.1 Hung To Road, Kwun Tong, Kowloon (Map)

Enquiries

For enquiries, please contact Academic Programme Development Division on 3940 0101 after language selection, press "1".