

Junior Research Mentoring Programme

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| Code: | JRMP2021_17 |
| School / Department: | Department of Industrial and Systems Engineering |
| Name of Research Leader: | Dr YM Tang, Teaching Fellow |
| Research Topic: | Project on 3D or 2D Game Design |
| Short Description of the Research Project: | In recent years, virtual reality (VR) technology has become a buzzword which appears in almost every corner of people's life. The gradual maturity of VR technology has gradually changed every aspect of people's life. Gaming design is one of the major applications that applies the VR technology. Gaming is not only designed for entertainment, but also it can be used in many real-life applications including teaching, training, healthcare, etc. In this programme, students will be able to learn and experience the game design process. Through this programme, students will be able to learn the fundamental knowledge and skills including 2D computer graphics design, 3D modeling, coding, as well as to develop their own 2D/ 3D games. |
| No. of Places Offered: | 2 |
| Special Requirement(s): | With knowledge in 3D computer modeling (e.g. blender, Fusion360, maya, 3Ds Max, etc.) or 2D computer graphics design (e.g. Adobe Illustrator, Adobe Photoshop), or 2D online game design (e.g. Unity) |

* The information presented above is subject to change.

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| Code: | JRMP2021_18 |
| School / Department: | Department of Industrial and Systems Engineering |
| Name of Research Leader: | Dr Carman Lee, Associate Professor |
| Research Topic: | Smart Service and Data Analytics for Enterprise/Industry |
| Short Description of the Research Project: | <p>This programme is designed for students who are interested in learning the concepts of Internet-of-Things (IoT) and mobile apps development. Utilizing the digital technology module of purpose, participants will be guided to develop their digital cognition, cultivate their research and development skills with structured learning material, and provide an opportunity to study the modules. The programme will begin with a brief introduction to digital knowledge. Students will study the historical dataset with multiple data visualization tools. Understanding the concept of the IoT, students will be familiar with Raspberry Pi and Flotilla Software to learn the program and control the robot car with Rockpool toolkits. Flotilla web application and python adoption for generating the signal from the sensors are the domain learning for the junior research mentoring programme. Students also learn to use with MIT App Inventor to create basic techniques for apps. Combining the MIT App Inventor and the real-time database-Firebase, the user-interface can directly show the nearly real-time application for the sensors. Students are required to design a product related to IoT by adopting multiple market research techniques. They will further analyze the data and then evaluate the results through the multiple data visualization software.</p> |
| No. of Places Offered: | 2 |
| Special Requirement(s): | - Preferred subject taken: Information and Communication Technology |



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- Understand the underlying principles of programming and algorithms.

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