Call for Graduate Research Assistant (GRA)

Project Title: **Federated Learning of Spiking Neural Networks for Artificial Intelligence of Things (AIoT)**

Project Description
Foreseeing a world of interconnected AI-empowered Internet of Things (IoT), this project is to build an Artificial Intelligence of Things (AIoT). Modern AI algorithms cannot be implemented effectively in the IoT devices due to their limited computing resources and storage. On the other hand, limited network bandwidth and latency delay the data transmission and affect the timeliness of training a deep learning model at the cloud computing center. The research objectives are to (1) implement an energy-efficient AI algorithm on the edge devices, (2) and to train the learning model effectively despite having only limited amount of data locally. To achieve these objectives, this project proposes using the (1) Spiking Neural Networks (SNNs) to provide energy-efficient learning on edge devices, and (2) Federated Learning (FL) to train collaboratively a global model for the distributed devices.

Source of Funding: **Fundamental Research Grant Scheme (FRGS)**

Duration: **2 Years (2021 Sep – 2023 Aug)**

Monthly Salary: **RM 2000**

Location: **Faculty of Engineering, Multimedia University, Cyberjaya, Selangor, Malaysia**

Benefits of the project (not limited to):
- Pursue a Master of Engineering Science (M.Eng.Sc.)
- Publications in conference proceedings and journals

Responsibilities:
- Conduct research and publish the findings
- Deliver the expected project outcomes
- Perform administrative works assigned by the faculty

Requirements:
- Bachelor's degree in Electrical/Electronics Engineering, Computer Science, IT, or related disciplines, with **CGPA 3.0** and above.
- Prior knowledge and skills in embedded system programming, AI, Neural Network, Federated Learning algorithms is an advantage
- Can communicate and write well in English
- Responsible and responsive
- Be committed till the project ends

Interested applicants please write to **Dr Foo Yee Loo** (ylfoo@mmu.edu.my) with a proper cover letter & CV by **10 Oct 2021**. Only shortlisted candidates will be called for an interview.