ExCEL Activity Report

Code on Weekend 2019

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Matric Number: A19EC0189

Programme: SECP Bachelor of Computer Science (Data Engineering)

Batch: 2019/2020

Academic Advisor: Prof. Dr. Azlan Bin Mohd Zain

Programme Information

Date: 16th and 30th November

Venue: Makmal Pengajian 1, Blok N28a

Organiser: Persatuan Mahasiswa Sains Komputer (PERSAKA) UTM

Graduate Success Attribute

1. Thinking Skills
2. Scholarship Skills
3. Communication Skills

Position: Participant.

Justification in Joining Activities

Around early November in 2019, I had read in the School Of Computing WhatsApp group, that there was a two-day programme named Code on Weekend, taking place on the 16th November and 30th November. I was vey interested in both topics that were going to be held, which were Machine Learning with Python and the Flutter Framework. Firstly, I was very interested in Machine Learning and Artificial Learning. Since I truly believe that artificial intelligence is the future of technology. Therefore, I would like to start dabbling in machine learning using python a language that I am quite acquainted with. In addition, they invited a person who was in the workforce and had his own machine learning company Dr Afnizanfaizal. Secondly, I was also interested in Flutter as a language and framework for creating mobile interfaces. I had initially read on the internet about Flutter and how it was created by Google. Even though I was less interested by mobile programming, but I attended the Flutter session also to broaden my experiences. In a nutshell I attended Code on Weekend for both sessions because I was interested in gaining starting experiences with machine learning using python and maybe dabble in some mobile development by learning a bit about Flutter from experienced speakers.

The Graduate Attribute that are focused on

The Code on Weekend event has focused on three Graduate Attributes which are the Thinking Skills, Scholarship Skills and Communication Skills.

One of the Graduate Attributes that is being focused on in this event is the **Thinking Skills**. Since this event was more like an entry workshop, the students had to analyse some complex concepts like Machine Learning and then apply the learned concepts into the students own code. Students also had to think critically on how to solve the problem/task that was assigned in the class, which was to write a program that can learn to read and then identify handwritten numbers, by integrating TensorFlow and Keras.

The second Graduate Attribute that was focused on in this event was the **Scholarships Skills**. This event helped students to further develop an inquisitive mind especially for those who were new to machine learning programming and flutter. Not only that, this event also helps students to become more receptive to new ideas and motivated self-directed learning

since the both invited speakers greatly encouraged self-studying by not fully explaining the problems presented also including teasing about extra things that the students could explore in their own time. This in turn will motivate students to seek and manage relevant information from various sources when they do their own self-learning.

Lastly, the Graduate Attribute that was also focused on was the **Communication Skills** as there was an admirable amount of communication between the speakers and the participants which included questions about the topic or questions regarding any problems with running the programme.

Content of the activities

The Code on Weekend programme was organised by PERSAKA, with the aims of exposing participants through various programming skills and programming tools through presentation and discussions led by multiple experts, as the name suggest during the weekends. There were two sessions for Code on Weekend 2019, the first session being held on the 16th of November 2019 and the 30th of November 2019. This event was primarily attended by UTM students from the School of Computing UTM.

The first session which was held on the 16th of November 2019 showcased Machine Learning (ML) and its applications by an invited speaker Dr Afnizanfaizal Abdullah. ML is the application of Artificial Intelligence (AI) that, without directly being programmed, reapplies experiences by learning and improve its functions from its experiences. The session started off with the background presentation of Dr Afnizanfaizal himself and his career with machine learning programming. Then, he presented and brief explanation of machine learning and its applications in real life. After that, Dr Afnizanfaizal then introduced python and machine learning, then giving time for students to setup their python environments in their own laptops, to try out by applying TensorFlow to tackle a problem. This problem was how to apply TensorFlow on how ML can identify numbers from handwritten text. This session also included sessions of Q&A between the students and Dr Afnizanfaizal.

The second session, which was held on the 30th of November 2019 which showcased the Flutter Framework by Mr Mohd Shafiq Irwan bin Mat Yaqid; a practical student at Synapse Innovation Sdn. Bhd., who was aided by some of his colleagues. Flutter is an open-source UI software development kit created by Google, used for developing cross platform applications

for Android, iOS, Linux, Mac, Windows and so on. The participants were guided and mentored on how to initially install fundamental software to run Flutter such as Visual Studio Code and Android Studio. Android Studio was used to emulate the applications, and then guiding students on how to build a simple cake ordering application.

In conclusion, participants of Code on Weekend were exposed to the basics of Machine Learning and Flutter, and use this initial experience to further learn about Machine Learning and Flutter.