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SCHOOL OF COMPUTING
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Industrial Visit Report

"ASEAN Data Analytics Exchange(ADAX) "

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Introduction

ASEAN Data Analytics Exchange(ADAX) is an initiative by MDEC to enable the businesses, governments, academia and professionals to accept the Data Analytics quickly as a tool to empower decision making and innovation. ADAX seeks to be the definitive Data Analytics Exchange Hub for knowledge, information, resources and collaboration for the ASEAN region. The main goal of ADAX is to develop the ecosystem, build a critical mass of talent pool in the big Data Analytics category and to foster collaboration amongst businesses, start-ups, academia and professionals so that Data Analytics becomes an integral part of business innovation and decision making. Another initiative by ADAX is Data Science Finishing School for Graduates. It is a 6-month paid finishing school that includes 2 months of intensive data science enablement and mentorship with experienced data scientist and placement at industry partners. It is a program driven by ADAX in partnership with universities and leading industry partners to fast track the development of Data Professionals that meet the needs of the industry.

ADAX was established in 2009, originated by providing IT and security solutions to mid-level and small scale businesses. The aim of ADAX since then has been to provide quality solutions that help in creating a trusted list of clients. In 2010, ADAX began to expand the scale of operation by strengthening its customer base and with steady growth, ADAX soon became a competitive firm in the industry attracting high profile clients with diversified needs. ADAX has a reputation of working with organizations that require the highest level of security with the likes of Banks, Government Organizations and Security firms. This has shaped ADAX as a reliable and trusted brand name in the field of professional IT and Security Solutions providers. In a period of artificial intelligence and humanizing technology, ADAX has been able to develop hi-end security solutions for the operations of the clients thereby adding value and contributing client activities to be expanded in a global scale achieving greater efficiency in productivity with a smarter cost effective system.

Figure 1: The icon of ADAX and MDEC

Figure 2: The photo of our group member at ADAX

Details of Journey

On 26th Oct 2018, the ADAX have invite all the student of data engineering and some of the student of software engineering to visit the building of ADAX which addressed at Level 27, Tower B, Vertical Business Suites Avenue 3, Bangsar South 59200, Kuala Lumpur, Malaysia. At the beginning of this visit, all the students are gathered at the ground floor of the building and then we get the permission of staff then all the student go to floor 27 to visit the working environment at there and what is the infrastructure use by them.

Figure 3: The infrastructure and the environment around the ADAX

After finish visit the infrastructure and the environment around there, all the students are instructed to go to the optimization room in the floor to listen talk given by the ADAX authority. One of the speaker of the ADAX authority, Dr Mark Chia, the Practice Lead, Advanced Analytics BEng(Hons), BSc, PhD, CEng MIET, MIEEE, he told the students about the future of the digital economy and what is the industrial revolution for this modern society.

Figure 4: Dr Mark Chia was giving a talk

Detail Descriptions

Organization Structure

The ADAX was initiated by MDEC, they bring a wealth of industry experience and knowledge in their respective fields, and are collectively responsible for implementing and delivering our strategic industry development and digital transformation objectives.

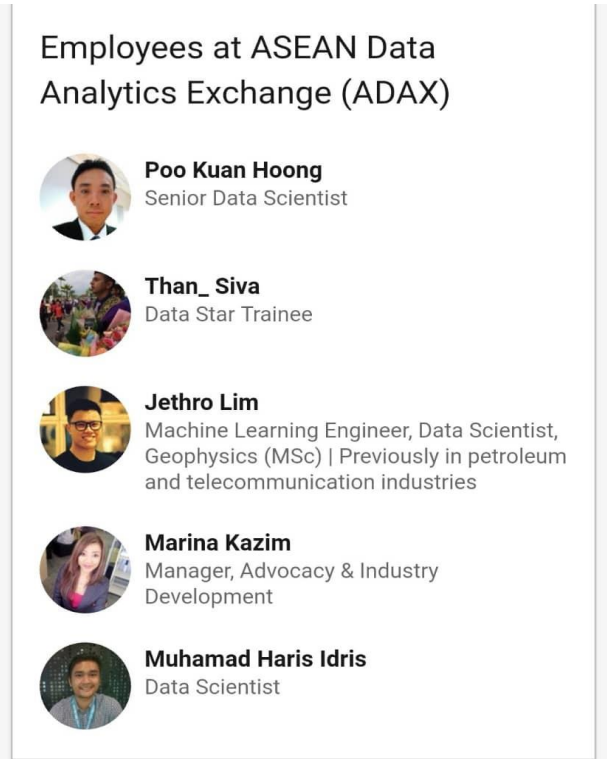

Figure 5: The example of the employee in the ADAX centre.

Services

ADAX offer 3 main parts in the company which is training for intern students, advocacy and partnership. For training, ADAX opens door for training partners seeking appointment through a government process. ADAX also simplifies quality checks before renewal of training partners. By having the training, trainee or intern students can adapt well with the working experience in real life.

Other than that, ADAX also offers advocacy. Advocacy is a public support of an idea, plan or way of doing something. ADAX acts as benchmark for big data analytic syllabus and a platform for professional sharing amongst the industry. ADAX provides crucial knowledge needed for organization that would like to explore the fundamentals of data in other data driven sectors especially for the purpose of talent environment. ADAX also serves as a platform to connect businesses with industry partners.

In the terms of partnership, ADAX are proud partners with key industry players that share similar goals in contributing towards the growths of Big Data Analytic ecosystem.

ADAX also provide Innovative Lab as it is used for demo or showcase of a program. It also used for product launch and grow programmed. Services that ADAX offers also include the Talent Development where technical classes or massive are open online.

Whoever interested to participate and be a part from ADAX can join it by only doing it online. It also provides courses and hackathon or also known as hack festival is an event that people who has Science Computer background collaborate together on software project such as develop a code. Job matching, shared training and technology labs are also including in the Talent Development.

Last but not least, the services that provided by ADAX is Star-ups. It is an accelerator programmed for the beginners. Industry collaboration and access to funding and go-to-market.

Achievement

ADAX was built up at the conclusion of 2016 as a result of an effective open private association between MDEC and Ansys Sdn Bhd, the company that I established when I was running my telco preparing trade. 576 occasions conducted at ADAX's state-of-the-art-facilities. It is anticipated to assist Malaysia accomplish, in 9 months, 2390 Information Experts & Supervisors, 396 Information Researchers, and 20,000 Information Experts been born by 2020, an objective set by the Malaysian Government in 2015.

Figure 6: The example of the achievement with the Digital Programme Division.

Figure 7: The example of the achievement with the Training and Industry Partners.

Adoption Program and Community Event

Malaysia has fast-tracked its growth in data professionals through a unique Public-Private Partnership initiative called Data Star program. A joint-effort between ADAX, MDEC and renowned industry players, Data Star program will help Malaysia achieve 20000 data professionals by 2020.

Data Star program is a testament to MDEC's persistent commitment to develop a powerful Big Data Analytics ecosystem. Data star program also provides two months' intensive activity which include hands-on modules. The learning path is curated to align them with Data Professionals Skills Framework.

DataCamp

DataCamp is a platform to learn data science from the comfort of the browser on your own by only watching the DataCamp's video tutorials and coding. DataCamp's lessons are bit-sized so individual can learn anywhere and anytime by only using their own device. This can help them to arrange their schedule so they have time to spend on learning data science. This application can track conveniently order the courses so they can find what fits their glance.

Whoever learn via this application, individual can apply on what they learned quickly. The videos provided are also included immediate hands-on-the-keyboard exercises. This will sharpen and trained their newly learned skills. Then, after a lot of practices, students or individual can apply the skills learned to real-world problems.

Those who have complete the courses can earn certificates. This also can improve their skills in data manipulation, data visualization, statistics, machine learning and more.

Figure 8: This figure shows DataCamp that can access in

Premiere Digital Technology

Ministry of Higher Education (MOHE) and MDEC had awarded and recognized 8 Premier Digital Tech Universities and 5 Preferred Digital Tech Polytechnics as top institution that can deliver first class theoretical and practical training.

The Premier Digital Tech include University Malaya, University Technology Malaysia, University Technology Mara, Taylor's University, Multimedia University, Asia Pacific University, Sunway University and Tunku Abdul Rahman University College.

Figure 9: The example of the university that included in the Premier Digital Tech.

While for the Preferred Digital Tech Polytechnics include Politeknik Ungku Omar, Politeknik Sultan Mizan Zainal Abidin. Politeknik Sultan Idris Shah, Politeknik Mersing and Politeknik Balik Pulau.

Quality intake for students who want to learn in Science Computer is Digital Tech Education Fund and Green Lane. Academic Reputation for the universities and polytechnics is digital panel expert where industry players provide input, knowledge and expertise on strategic direction, quality environment and curriculum effectiveness. There also provide Influencer Immersion Program where enriching knowledge of faculty members with technology and application practices to augment their skill and knowledge for better courseware delivery effectiveness and exposure.

Digital Economy

Malaysia is one of the few nations with an organized Big Data Analytics (BDA) guide to untap the esteem of huge information. At the turning point of advanced insurgency, the powers of huge information can be utilized to depict an issue, survey a circumstance, figure comes about, and get ready arrangements. Commerce proprietors, government, and citizens all stand to pick up from Malaysia's vision as ASEAN's driving BDA arrangement hub. To make this vision a reality, MDEC is initiating this stage to lead endeavours and make discussions. MDEC works to energize and increment BDA appropriation over all segments by creating ability within the field of information science and empowering key associations, whereas presenting upskilling endeavours and impelling coordinates activities.

Mydigital Maker

Mydigitalmaker is a joint open private-scholarly world movement to change over Malaysian youth from cutting edge customers to creators inside the automated economy. This fuses capacities, for example, coding, application enhancement, 3D printing, mechanical innovation, embedded programming and data examination; which is all capable in the long run offer help to strengthen issue handling and creative energy among our future period.

Fusionex

Fusionex is an established multi-award winning data technology provider that specializes in Analytics, Big Data, Machine Learning and Artificial Intelligence. Our business is to help clients manage, make sense of and derive useful insights and information from the vast amounts of structured and unstructured data at their disposal. We are focused on bridging the gap between business and technology, and in doing so, providing an exceptional and positive experience to customers of various markets.

The vision, mission and the value of fusionex:
Vision:

Our vision is to be a world-renowned IT brand of quality and distinction.

Mission:

Fusionex is committed to create value by providing the best experience to enterprises across the globe through its innovative offerings of software and solutions.

Values:

Fusionex's success springs from the fusion of 8 Core Values. Together, they denote the ideology that we strive to cultivate and propagate within our organization.

The FUSIONEX is embodied as shown

Brand	Word	Meaning
F	Faith	Through assurance in ourselves, our organization's vision, and what we believe in, achieving goals that we set as well as those set by others becomes a natural flow of events
U	Unity	Working together knowing that nothing is impossible when we stand together
S	Success	Consistently striving to better ourselves through accomplishments and achievements
I	Inspiration	Relentlessly motivating and encouraging all around us
O	Optimism	Firmly grounded with the knowledge that optimism is the foundation of true progress
N	Nobility	Maintaining a noble spirit and remembering that it is always good to give something back to society whenever possible
E	Experience	Focusing on our experience to provide the best experience to all parties
X	Xcellence	Staying true to our vision by ensuring that we make NO COMPROMISE to provide top quality services and deliverables

Data Hero

Data Hero is a data visualization solution that enables users to immediately link to cloud-hosted services and import data and generate powerful visuals that are easy to understand and derive insights from. It is so easy to use that it doesn't require an IT team to set up and get running.

With this robust data visualization platform, you can generate charts based on the software's suggestions or on your own specifications and preferred configurations. This means users see the data they want or need instead of having to go through piles of irrelevant information.

Data Hero comes with a built-in data decoder that automatically performs data classification and normalization and creates a uniform data repository that is easily accessible yet secure.

There are two step to become a data hero should be acquired:

1. Knowledge of statistic
2. Knowledge of Python/R

Data Hero was also in the field of data science there for we need to know the life cycle of it. There are 7 step of the life cycle:

1. Identify the problem
2. Identify available data source
3. Identify if additional data sources are needed
4. Statistical Analysis
5. Data processing and Management
6. Communicate Results
7. Maintenance

Example of AI in industry

AI (artificial intelligence) is the simulation of human intelligence processes by machines, especially computer systems. These processes include learning (the acquisition of information and rules for using the information), reasoning (using rules to reach approximate or definite conclusions) and self-correction. Particular applications of AI include expert systems, speech recognition and machine vision.

The case study about the example of AI in industry is the Defective Glove Identification using Artificial Intelligence for Glove Manufacturer.

Challenge(s)	Solution(s)	Impact(s)
• Heavy cost to employ large QA team to manually inspect the quality of the manufactured glove • Time consuming in QC stage(manual) • Low accuracy rate(<60%) on the existing imaging solution identifying the defective gloves thus still require large QA team to perform second round checking	• Fusionex Image Intelligence solution (powered by Alicloud) is used to receive the images captured by the existing imaging system and immediately classify the quality of the glove and identify the root cause of the defective glove • The solution is running of Deep Learning algorithm, with the auto-learn and improve capability on the model	• Improve Accuracy rate to 96% • The algorithm able to detect the defective glove within 0.3 second for every glove

Figure 10: Mr. Gan Chun How, the Principle Consultant of Fusionex was giving a talk.

SAS (industrial revolution, internet of thing, AI)

Industrial revolution

Manufacturing is where raw material is turned into finished goods, simply put. The goods can either be sold to another manufacturer or to end consumers. The process could be fairly simple and also extremely complex.

It is where digitalisation moves completely into the industrial sector. When devices meet cloud and sensors trigger decision making based on machine learning. A lot has happened since the first industrial revolution.

Internet of thing (IoT)

Manage and analyse your industrial IoT data where, when and how it works best for your business. Understand which data is relevant so you'll know what to store and what to ignore. SAS delivers trusted, automated IoT solutions that can help you:

1. Measure customer perception of quality.
2. Reduce warranty costs and lessen their impact.
3. Improve production yield while lowering maintenance costs.

Artificial Intelligence (AI)

The AI at SAS is the science of training systems to emulate human task through Learning and Automation. There are 3 tasks AI use in SAS:

Figure 11: The tasks of AI at SAS

Reflection

In my opinion, this industrial visit gave a big impact on my goal about my study. As a students of data science, the revolution of digitalisation is the only way from now. For all industries. I believe that adapting and investing in technology will save organisations a big chunk of money and allow for success and growth. Therefore, I will pay more effort during my study to get more understanding in my study as we will get a good opportunity for our future job. My goal is that I can build a system that can evaluate big data solutions within organizations.

The improvement or plan that necessary for me to improve me potential in the industry was to be more active involving myself in the program that initiative by Malaysia Government therefore I can learn more experience in those program for those coming revolution. As a good engineer, I should be able to have those skills that need by a data engineer. I also have to have an interaction and communication with other company to experience and know more about real-work experience. This can have improved myself to be more matured and not awkward in the future.

As there was a program offer by MDEC, I am interested to join this program because I can learn a lot of new knowledge and this can help me to get a brighter future. The program offers is benefit to the participator and we can learn skill in those program for the coming revolution and we will not weed out in this modernization era. Besides that, I interested to join Data Star program. The program is Science Finishing School for Graduates. This is because the programs provided an intensive data science and mentorship with experienced data scientist. By joining this program, I also have the possible placement after graduates with Data Star's industry partners. Since I take major in Computer Science, this will be my specialty to join this program.

Conclusion

In a nutshell, we have known more about the ADAX authority in Malaysia by joining this industrial visit. The ADAX authority have told us a lot of information about the ADAX about how is ADAX work and the students can know the Malaysia Government had done a lot of effort in the data science region that initiative by it.

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