

NEWSLETTER

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November 2022



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Motivational Quote

“Mindset is everything. A good mindset will always be looking for all relevant and possible alternative opportunities. A growth mindset is able to sense the fundamental change in a situation and is also able to adjust to the change by initiating another solution that suits the latest data and trends better. It's not a cut-and-dry mentality”

- YBhg. Tan Sri Dr Mohd. Daud Bakar -



What are the main future opportunities in the IoT domain for Computer Science and Information System Prospects?

Asst. Prof. Ts. Dr. Ahmad Anwar Zainuddin
anwarzain@iium.edu.my

Many methods and frameworks are indeed being developed to address cloud-based modelling issues. As a result, now is the time to propose robust and flexible mechanisms for use in the Internet of Things (IoT) industry to overcome domain-specific challenges. This segment examines various readily accessible and easily customizable frameworks which are prevalent in the designed system and some recommended areas in IoT.

Overall, IoT is an invention which connects a diverse set of automated systems, platforms, interactive gadgets, and detectors. Furthermore, it makes use of quantum and nanotech to achieve previously inconceivable storage, sensors, and computing performance. Significant research studies were undertaken and are accessible online and in published materials in the form of scholarly publications and media releases to demonstrate the superior usefulness and scalability of IoT developments. It might be used like a preliminary step when developing fresh, inventive marketing concepts that consider privacy, verification, and compatibility. In recent years, some important IoT initiatives have taken control over the economy. Business, artificial intelligence, home automation, and smart transportation IoT projects clearly get a significant market share when compared to others. Therefore, IoT has the potential to offer greater chances to a variety of fields, including computer science, information systems, and business management.

Opportunities for students majoring in computer science and information systems to work in the internet of things can be broken down into the following categories as shown in Figure 1 and Figure 2:

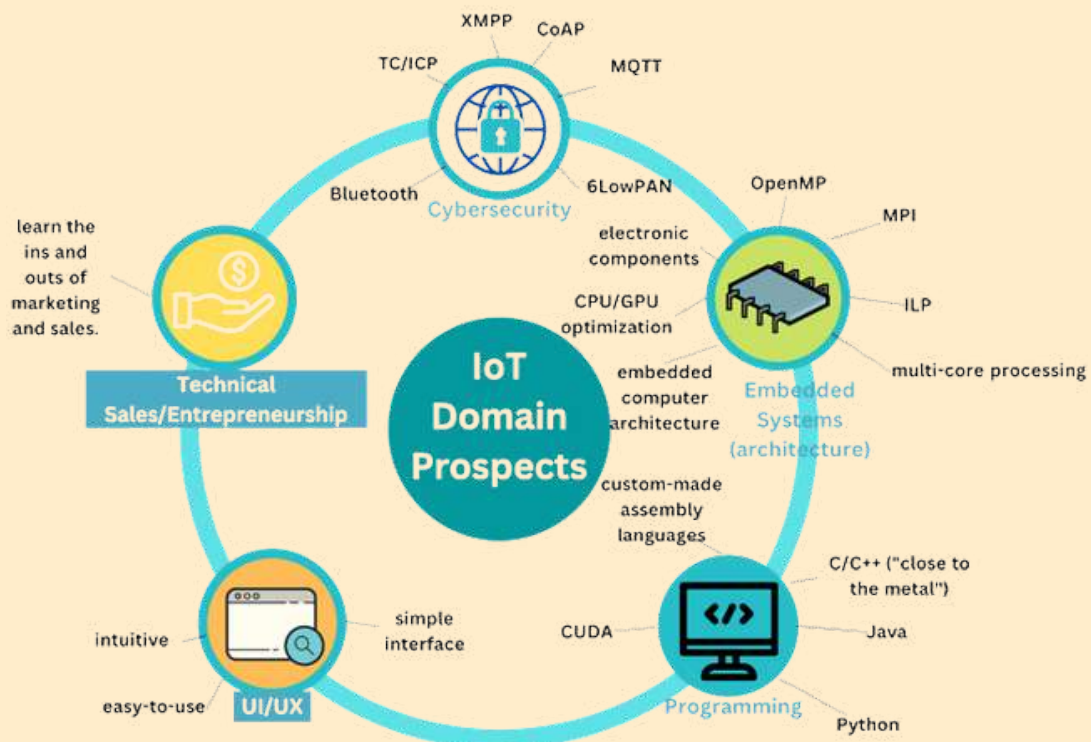


Figure 1: Opportunities for Computer Science and Information System students in the IoT domain prospects

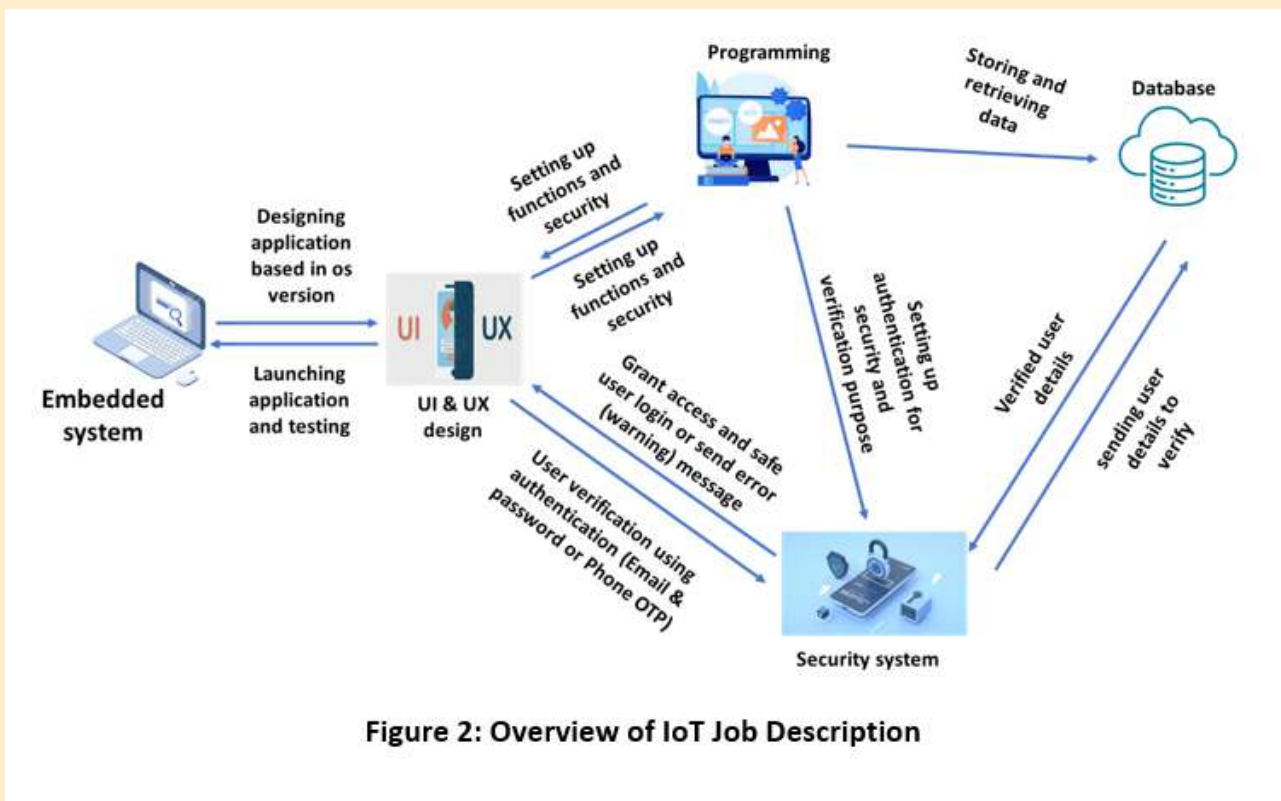


Figure 2: Overview of IoT Job Description

Cybersecurity: The connectivity between devices and how these devices can be exploited. For instance, the communications and networks. Different IoT devices will use different protocols such as XMPP, CoAP, MQTT, 6LowPAN, etc. This is on top of existing common protocols such as Bluetooth, TC/ICP, and so on, since the protocols needed depend on the environment the device is operated in.

Embedded Systems (architecture): Since many of these devices are small and have limitations in power/energy usage, there is a lot to learn. Experimenting with OpenMP (Open Multi-Processing), MPI (Message Passing Interface), ILP (Inductive Logic Programming), multi-core processing, etc., can be used to learn more about embedded computer architecture, CPU/GPU optimization, electronic components, and so on.

Programming: When it comes to different types of technology, having fluency in multiple languages is essential. When you start working on Internet of Things projects, you will quickly notice that typical embedded systems have limitations in terms of power and energy consumption, very limited memory, the absence of an operating system (OS), communications, and other areas. Keep an open mind when it comes to learning new programming languages, including C/C++ ("close to the metal"), Java, Python, CUDA, and even some custom-made assembly languages.

UI/UX: The user interfaces of many embedded systems are extremely lacking or non-existent. This may result in a poor user experience. When it comes to running simulations, many programs do not even have a graphical user interface (GUI), and even if they do, it is impossible to understand the nature of problems when they occur. For example, there is no specific error code to point out a specific hardware/software issue in the GUI.

Technical Sales/Entrepreneurship: If you want to be successful as a product designer who also runs their own business, you should learn the ins and outs of marketing and sales. You need to be able to provide answers to questions such as "how does this work?" or "can this tool accomplish that?" if you want to be successful in sales. The Internet of Things is still in the hype phase of the technology adoption life cycle at this point in time (since it has not matured).

There are many potential areas to focus in IoT. It really depends on what your interests and previous skills are related to. Primary problems will always be security, energy consumption, communication, interoperability and customer adoption rate. This is without adding points about microcontrollers (MCUs), artificial intelligence (AI) or robotics!

Congratulations BATTLE OF HACKERS (BOH)



KICT Cyber Security students representing IIUM



IIUM Team - Top-10 Winning teams



Congratulations

MALAYSIA TECHNOLOGY EXPO (MTE) 2022, SUSTAINABLE DEVELOPMENT GOALS (SDG) INTERNATIONAL INNOVATION AWARDS



Congratulations

SUSTAINABLE SOCIAL BANK: Sustainable Livelihood



Assoc. Prof. Dr. Normi Sham Awang Abu Bakar



Asst. Prof. Dr.
Azlin Binti Nordin



Prof. Dato' Dr.
Norbik Bashah Bin Idris



Asst. Prof. Dr.
Norzariyah Binti Yahya



Asst. Prof. Dr.
Madihah Binti Sheikh Abdul Aziz

Congratulations

PENDEKAR SIBER:

A Novel Self-Empowerment Program for Young People to Combat Cyber Threats



Asst. Prof. Dr. Nurul Nuha Binti Abdul Molok



Asst. Prof. Ts. Dr.
Noor Hayani Binti Abd. Rahim



Asst. Prof. Ts. Dr.
Zahidah Binti Zulkifli



Prof. Dr.
Mohamed Ridza Wahiddin



Sr. Noor Azlan Binti Mohammad Ali



Asst. Prof. Dr.
Shuhaili Binti Talib

Congratulations for Completing Proposal Defense/Dissertation/Computing Project



Congratulations for Completing on Proposal Defense



Nadiah Binti Arsat
Doctor of Philosophy (Computer Science and Technology) (P_CST)

Thesis Title:
A Software Testing Framework For Assessing The Quality Of Blockchain Systems

Date of Proposal Defense:
29th September 2022

Chairman:
Prof. Dr. Asadullah Shah

Examiner:
Assoc. Prof. Dr. Norsarnmah Salleh
Asst. Prof. Dr. Rizal Mohd. Nor

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Congratulations for Completing Computing Project



MA NA YAMEELAH
MASTER OF INFORMATION TECHNOLOGY (MIT)

TITLE:
Examining The Factors Influencing Small-Scale E-entrepreneurship Readiness And Success In The Southern Part Of Thailand.

Supervisor:
Asst. Prof. Dr. Adamu Abubakar Ibrahim
Department of Computer Science (DCS)

Date presentation:
4th October 2022

Examiner 1:
Asst. Prof. Dr. Rawad Abdulkhaleq Abdulmalika
Department of Computer Science (DCS)

Examiner 2:
Asst. Prof. Dr. Najhan Muhamad Ibrahim
Department of Information System (DIS)

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Congratulations for Completing Dissertation



YAHYA AHMED MOHAMMED ZAKI
MASTER OF INFORMATION TECHNOLOGY (MIT)

TITLE:
Disease Spreading Prediction Model Based On Machine Learning And Deep Learning Techniques: Covid-19 In Malaysia Case Of Study

Supervisor:
Prof. Dr. Akrom M Z M
Department of Information System (DIS)

Co-Supervisor:
Assoc. Prof. Dr. A. A. Alwan
Asst. Prof. Dr. Mohd Izzuddin

Date presentation:
5th October 2022

Examiner 1:
Assoc. Prof. Dr. Adamu Abubakar Ibrahim
Department of Computer Science (DCS)

Examiner 2:
Asst. Prof. Dr. Raini Hassan
Department of Computer Science (DCS)

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Congratulations for Completing Dissertation



SITI NORHUSNA BINI ABD GHAPHA
Master in Protective Security Management (MPSM)

TITLE:
Disclosure Of Personal Data Among Social Media Users In Selangor.

Supervisor:
Asst. Prof. Dr. Aznan Zuhid bin Saldin
Department of Information System (DIS)

Date presentation:
7th October 2022

Examiner 1:
Asst. Prof. Ts. Dr. Noor Hayani Abdul Rahim
Department of Information System (DIS)

Examiner 2:
Asst. Prof. Dr. Aznan Zuhid bin Saldin
Department of Information System (DIS)

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Congratulations for Completing Proposal Defense



TOTOCHI AHMED TALAAT JASIM
Doctor of Philosophy (Computer Science and Information Technology) (P_CST)

TITLE:
Modeling Citizen's Intention to use the e-government services in Iraq using DTAM

Supervisor:
Prof. Ts. Dr. Abid Rahman Ahlan
Department of Information System (DIS)

Co-Supervisor:
Asst. Prof. Dr. Hazzwani Mohada
Department of Information System (DIS)

Date presentation:
7th October 2022

Examiner 1:
Prof. Dr. Akrom M Z M
Department of Information System

Examiner 2:
Asst. Prof. Dr. Aznan Zuhid bin Saldin
Department of Information System

Chairman:
Prof. Dr. Asadullah Shah
Department of Information System

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Congratulations for Completing Dissertation



NUR FADILAH BINI UMAR
Master of Protective Security Management (MPSM)

TITLE:
Remote Access Policy Compliance: Risk And Strategies in Banking Institution

Supervisor:
Sir. Jamaludin Ibrahim
Department of Information System (DIS)

Date presentation:
13th October 2022

Examiner 1:
Asst. Prof. Dr. Aznan Zuhid bin Saldin
Department of Information System

Examiner 2:
Sir. Jamaludin Ibrahim
Department of Information System

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CHES IUM

Digital Career with PETRONAS

Time	Agenda	PIC	Remarks
1000 - 1100	Networking session with KICT lecturers		
1100 -1110	Context setting & briefing by GD HR on digital careers in PETRONAS	M Nizam B Ahmad, Manager (HRM-Group Digital) Bernadene Simone Wilfred, Executive (HRM-Group Digital)	
1110 - 1210	Panel presentation from Software Engineering, Data Science, & Data Platform Services moderated by Group Digital HR	Emie, Kian Ern Yap (Software Engineer) Amalina A Rahman (Data Scientist) Moderator: Bernadene Simone Wilfred (HRM-PETH)	
1210 - 1215	5 min Break		
1215 - 1220	Introduction to Career PETRONAS Digital Recruitment briefing by HR	M Nizam B Ahmad, Manager (HRM-Group Digital) Bernadene Simone Wilfred, Executive (HRM-Group)	
1230 - 1300	Q&A session with audience	M Nizam B Ahmad (HRM-PETH) Bernadene Simone Wilfred (HRM-PETH) Roman Kvaska (DE-SWE/DIGITAL) Khalil Nazri Lokman (DE-PS/DIGITAL) Asaad Abdollahzadeh (DS/DIGITAL) Moderator: M Nizam B Ahmad (HRM-PETH)	Students can post their questions through pigeonhole (QR code) given during the session
1300 - 1400	Networking Lunch		



Data Science Department in a Glance

- Data Scientists**
 - ✓ 13 Experienced (10+ years experience)
 - ✓ 20 Fully Trained (4 - 10 years experience)
 - ✓ 85 Young (2 - 5 years experience)
 - ✓ 30 Fresh (started their DS journey in 2020)
- Diversity**
 - ✓ ~10 backgrounds (Engineering, Math, CS, DE, Geoscience, etc)
 - ✓ 40% Female - 60% Male
 - ✓ 9% PhD, 27% MSc, and 64% BSc degree
 - ✓ 100% from Malaysia
 - ✓ ~10 Interns (13 students)
 - ✓ 5 GEES
- Knowledge and Skills**
 - ✓ Math, Stats and Probability
 - ✓ Programming (Python, R, Java etc), Cloud, SQL, LaTeX
 - ✓ Machine Learning, Optimization, Simulation, Text Analytics, Computer Vision, and more
 - ✓ Business Domain Knowledge
- Completed Development Programs**
 1. Data Science Academy (DSA)
 2. Digital Academy
 3. PETRONAS Learning Centre
 4. In-house DS Dept. Trainings
 5. PETRONAS Internal Expert Series (IES)
 6. Data Science Internal Learning Series (DSILS)
 7. Courses and Lectures online learning platforms
 8. On-the-job training
 9. and more!
- Over 60 Data Products - Example Projects**
 1. **Streamers**
 - Prediction of Streamers from process and equipment status
 - Prediction of Hydrocarbon emissions from the unit
 - Prediction of water drilling cost
 2. **Streamflow**
 - Optimization plant piping network
 - Optimization of full-complexity
 - Optimization of LNG Long-towern
 3. **Real Analytics**
 - Candidate DSSE needs including accident, drilling, transport
 - The prediction of H2S/CO2 terminal locations
 4. **Customer Retention**
 - Prediction of churned customers in Telecom
 - Classification of customer in retail



Talk/Seminar


RESEARCH, PUBLICATION AND INNOVATION SKILLS
IREP & Copyright Refresher Workshop
 Wednesday/5 October 2022
 10:00 a.m -12:00 p.m
 L.R. 14, Level 2, Block D, KICT

SPEAKERS

			
Sr. Sakinah Kameludin	Br. Mohamad Ridzuan Musa	Sr. Suhani Saarani	Sr. Anis Aziyah Azhar

MODERATOR


Asst. Prof. Dr. Nor Saadah Md Nor.

WORKSHOP Modules

- About IIUM repository (IREP)
- Let's get copyright
- MyRA & publications

Join Zoom Meeting
<https://iium.zoom.us/j/919259702657>
 pwc=DVjMzZtCUFGzNDJedXhuUUNRk45Zz08

Scan Me For CTD Point 

LIVE STREAM <https://youtu.be/ePUyfnasY0>

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Publications

(Submission in IREP for September 2022)

1. Hafizur Rahman, M. M. and Al Naeem, Mohammed Abdul Aziz and Abubakar, Adamu (2022) Threats from unintentional insiders: an assessment of an organization's readiness using machine learning. *IEEE Access*, 10. 110294 -110308. E-ISSN 2169-3536
2. Al Sousi, Amjad and Zulkifli, Zahidah (2022) Factors influencing effectiveness of e-learning systems among universities during the Covid-19 pandemic: a systematic literature review. *Journal of Education and Social Sciences*, 21 (1). pp. 22-31. ISSN 2289-9855
3. Ashraf, Arselan and Gunawan, Teddy Surya and Arifin, Fatchul and Kartiwi, Mira and Sophian, Ali and Habaebi, Mohamed Hadi (2022) On the audio-visual emotion recognition using convolutional neural networks and extreme learning machine. *Indonesian Journal of Electrical Engineering and Informatics (IJEI)*, 10 (3). pp. 684-697. E-ISSN 2089-3272
4. Attarbashi, Zainab and Abdulazeez E., Altaleb and Azana Hafizah Mohd, Aman and Aisha, Hassan Abdalla Hashim and Sebahattin, Eker (2022) A review of 5G technology: architecture and challenges. In: *The 8th International Conference on Computing, Engineering and Design (ICCED 2022)*, 28-29 July 2022, Sukabumi, Indonesia. (In Press)
5. Abdul Jalil, Mohammad Khairi and Hassan, Raini (2022) The application of business intelligence and analytics to drive better business outcomes in BSSB: a small tissue paper converting establishment. *International Journal on Perceptive and Cognitive Computing (IJPCC)*, 8 (2). pp. 43-55. E-ISSN 2462-229X
6. Jamian, Syahirah and Gunawan, Teddy Surya and Kartiwi, Mira and Ahmad, Robiah and Kadir, Kushairy and Nordin, Muhammad Noor (2022) Human activity and posture classification using smartphone sensors and Matlab mobile. In: *2022 IEEE International Instrumentation and Measurement Technology Conference, I2MTC 2022*, 16-19 May 2022, Ottawa, Canada.
7. Yee, Ch'ng Ooi Jie and Attarbashi, Zainab and Katuk, Norliza (2022) Traffic management for emergency vehicles. *International Journal of Undergraduate Research (IJUR)*, 3 (1). pp. 23-28. E-ISSN 2682-8189
8. Rafia, Tasnim and Mahmood Hasan, Tanveer and Hassan, Raini (2022) The effects of COVID-19 in global warming through the application of data science. *International Journal on Perceptive and Cognitive Computing (IJPCC)*, 8 (1). pp. 65-72. E-ISSN 2462-229X