Introduction to Medical Imaging

Training Programme
by
Faculty of Engineering
Multimedia University

Overview

Medical imaging refers to the technologies that are used to view the human body in order to diagnose, monitor, or treat medical conditions. Each type of technology gives different information about the area of the body being studied or treated, related to possible disease, injury, or the effectiveness of medical treatment. The current approach in manual diagnosis is very tedious, as well as susceptible to sampling bias, subjective interpretation, and human errors. Incorporating machine learning and artificial intelligence in the process will reduce the doctors' workload significantly, and at the same time elevating the standard of healthcare.

In this course we will introduce the imaging informatics in medical applications, including the Picture Archiving and Communication Systems (PACS) and the Digital Imaging and Communications in Medicine (DICOM) standard. Then, we will introduce the field of radiology, digital radiology, and their different imaging modalities such as X-ray, computed tomography (CT), magnetic resonance imaging (MRI), nuclear imaging etc. Next, we will discuss the topic of image processing and analysis as well as machine learning and artificial intelligence for medical images, before continuing with computer-aided detection and diagnosis.

Objective

To provide an introductory course to medical imaging and medical image analysis.

Target Audience

UG students, PG students, researchers, technician, engineers, medical personnel.

Prerequisite

None.

Training Methodology

Classroom.

Course Duration

1 day.

Content/Outline

Part I (Imaging Informatics, PACS and DICOM)

Part II (Radiology and Imaging Modalities)

Part III (Medical Image Analysis)

Part IV (Computer-Aided Diagnosis)

Course Instructors

Prof. Ir. Dr. Mohammad Faizal Ahmad Fauzi

Mohammad Faizal Ahmad Fauzi received the B.Eng. degree in Electrical and Electronic Engineering from Imperial College, London, UK in 1999, and the Ph.D. degree in Electronics and Computer Science from University of Southampton, Southampton, UK in 2004. He is currently a Professor at the Faculty of Engineering, Multimedia University, and the Head for the MMU-UKM-IMU IMU Artificial Intelligence for Digital Pathology (AI4DP) Research Excellence Consortium. His main research interests are in the area of signal and image processing, pattern recognition, computer vision and medical imaging, He has published more than 100 journal and conference articles to date, and delivered keynote and invited speeches at many international conferences. From May 2013 to June 2014, and April to June 2017, he was attached to the Ohio State University Wexner Medical Center as a visiting scholar where he worked on cancer diagnosis and prognosis in digital pathology. Mohammad Faizal is a Chartered Engineer (CEng) with the Engineering Council UK, and a Professional Engineer (PEng) with the Board of Engineers Malaysia. He is also a Senior Member of the Institute of Electrical and Electronics Engineers (IEEE) which he volunteers actively. He is currently serving as the Executive Committee for IEEE Region 10 (Asia Pacific), as well as the Advisor for IEEE Malaysia Section and IEEE Signal Processing Malaysia chapter. He is a recipient of many awards such as the 2020 IEEE SPS Meritorious Regional/Chapter Service Award and the 2021 IEEE Region 10 Outstanding Volunteer Award.

Administrative Details

Programme Logistics

Duration: 1 day

Dates, registration deadline and registration form:
Please refer to: https://www.mmu.edu.my/foe/short-courses/

Your Investment

Condition		Price per Pax
Regular Fee	Students / MMU Alumni	RM350
	Public	RM600
	Public (Group >5 pax)	RM500
	IEM/IEEE Members	RM500
Early Bird Fee	Students / MMU Alumni	RM250
	Public	RM500
	Public (Group >5 pax)	N/A
	IEM/IEEE Members	RM400

Method of Payment

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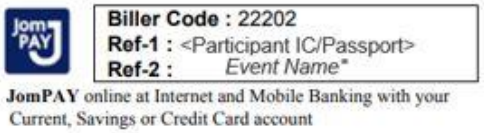
<tr><th>Type of Payment</th><th>Method</th><th>Details</th></tr>
<tr><td rowspan="2">Local Transaction / Payment within Malaysia</td><td>Online Payment with JomPay</td><td>

To get started, login to any preferred internet banking.
Look for JomPay to begin the payment process.
Enter Ref 1 & Ref 2.



* Ref. 2: FOELightning
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To get started, go to MMU website (https://www.mmu.edu.my/) > Admission > Financial Info > Payment Channel > Non Student ;

or scan the QR code below to begin the process:


Choose Category: Public Training
Workshop Name
Choose Your Participant Type:

✓ STUDEN (MMU, IEEE, IEM, Other Higher Learning Institution)
✓ PUBLIC
✓ GROUP (Group > 5 Pax)
✓ IEEE/M (IEEE/IEM Members)

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Type of Payment	Method	Details
International Payment / Payment outside Malaysia	Online payment with Flywire	• To get started, go to mmulanding.flywire.com; or scan the QR code to begin the payment process: SCAN ME • Choose Conference for Non-students related

Note:

Please submit the proof of payment to organizer for clearance updating purposes within 2 working days.

Refund and Cancellation

Any refunds will be processed in 60 days. Should there be any cancellation, it may be due to the organizer not getting the minimum participants or the participant failing to attend the workshop due to unavoidable reason.

Disclaimer

Faculty of Engineering, Multimedia University reserves the right to change the instructors, date and to vary/cancel the programme should unavoidable circumstances arise. All effort will be taken to inform participants of the changes. Upon submission of the registration form, you are deemed to have read and accepted the terms.

Enquiries

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