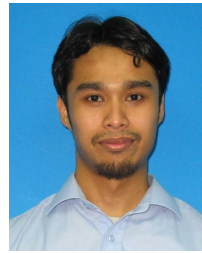# YASIR BIN MOHD. MUSTAFAH

- KULLIYYAH OF ENGINEERING
- IIUM Gombak Campus
- Email address:
  yasir@iium.edu.my

ACADEMIC QUALIFICATION

- Ph.D in Computer Vision
- Bachelor in Electronic Engineering

TEACHING RESPONSIBILITIES

ANALOG ELECTRONICS	2011/2012
DIGITAL LOGIC DESIGN	2010/2011 2011/2012 2012/2013
DIGITAL SYSTEM AND MICROPROCESSOR	2017/2018 2018/2019 2019/2020 2020/2021
DIGITAL SYSTEMS DESIGN	2010/2011 2011/2012
ELECTRIC CIRCUITS	2010/2011
INTEGRATED DESIGN PROJECT	2013/2014 2017/2018
INTERGRATED DESIGN PROJECT	2019/2020
MACHINE VISION	2014/2015 2015/2016 2016/2017
MECHATRONICS ENGINEERING LAB IV	2010/2011 2011/2012 2012/2013
MECHATRONICS LAB III	2017/2018 2018/2019 2019/2020 2020/2021
MECHATRONICS SYSTEMS DESIGN	2012/2013 2013/2014
MICROPROCESSOR BASED SYSTEMS	2013/2014 2017/2018 2018/2019 2019/2020
PROJECT 1	2018/2019 2019/2020 2020/2021
Project II	2019/2020 2020/2021
REAL TIME SYSTEMS	2014/2015 2015/2016 2016/2017
SEMINAR	2010/2011
SUSTAINABLE DEVELOPMENT: ISSUES, POLICIES AND PRACTICES	2020/2021

RESEARCH PROJECTS

In Progress

2021 - Present	The Development of the Medical Assistance Robot, MediBOT
2020 - Present	Development of an Autonomous Surface Vessel For Sedimentation Investigation In Port
2020 - Present	Development of an Autonomous Seabed Mapping System
2020 - Present	Industry@University: 4IR Competence Centre
2019 - Present	Development of Ocean-Grade ASV for geo inspection and survey application
2019 - Present	The Industrial Internet of Things Course Module Development and Training of Trainers
2019 - Present	KKR Gimmick Video, Drone and Robot For Sambutan Hari Profesion Teknikal Negara
2019 - Present	Perkhidmatan penumpulan data dan analisis data hidrologi serta pembangunan my river basin (NAHRIM) Integrated Numerical Modelling) untuk Pusat Kajian Lembanagan Sungai, Institut Penyelidikan Hidraulik Kebangsaan Malaysaia (NAHRIM)
2019 - Present	Modelling Facial Point Cloud Video as Novel Biometric Using 4D Deep Neural Network for Driver Drowsiness Detection
2018 - Present	Deep Neural Network Model for River Hydromorphology Characterization from Aerial Photogrammetry Point Cloud
2018 - Present	Service Between Delloyd R&D Sdn. Bhd., IIUM for CREST I-Grasp Process
2018 - Present	P11C2-17 (SMART DRIVER ASSISTANCE SYSTEM)
2017 - Present	Development Of Advanced Driver Assistance System (System Integration)
2017 - Present	Elucidating the Effects of Plasma Density on Graphene Growth from In-Situ Measurements by a Langmuir's Probe
2017 - Present	Development of Advanced Driver Assistance System (Professional Service on Algorithm Design)
2017 - Present	Development Algorithms for Adas Functions Based on Camera Sensors
2017 - Present	Development of A Modular, Scalable System of Adas Simulator

2016 - Present	Analytical Modeling of Relationship Between Frontal Facial Thermal Imprint and Affective States In Human Machine Interaction for Children with Brain Malformation
2016 - Present	A Qualitative Study on the Novel use of Electrical Stimulation for the Prevention of Pressure Ulcers due to Immobility
2016 - Present	Novel Tactile Sensory Surface Mat with Electrical Stimulation (SMES)for the Prevention of Pressure Ulcers due to Immobility
2016 - Present	Development of Smart Interior Rear View Mirror (IRVM)
2014 - Present	Mathematical Analysis to Estimate Optimal Shunt Impedance for Piezoelectric Transducer to Maximize Vibration Energy Dissipation in Non-Deterministic Sub-Systems
2014 - Present	AUTONOMOUS SYSTEMS AND ROBOTICS RESEARCH UNIT
2008 - Present	Intelligent Mechatronic System Research Unit (IMSRU)

Completed

2020 - 2020	The Industrial Internet of Things Course Module Development and Training of Trainers
2019 - 2019	KKR Gimmick Video, Drone and Robot For Sambutan Hari Profesion Teknikal Negara
2017 - 2019	Development Of Advanced Driver Assistance System (System Integration)
2016 - -1	A Qualitative Study on the Novel use of Electrical Stimulation for the Prevention of Pressure Ulcers due to Immobility
2016 - -1	Development of Smart Interior Rear View Mirror (IRVM)
2016 - 2019	Novel Tactile Sensory Surface Mat with Electrical Stimulation (SMES)for the Prevention of Pressure Ulcers due to Immobility
2015 - 2017	Accelerated Learning Program for Robotic Competition
2014 - 2018	Mathematical Analysis to Estimate Optimal Shunt Impedance for Piezoelectric Transducer to Maximize Vibration Energy Dissipation in Non-Deterministic Sub-Systems
2014 - 2016	Real Time Anomaly Detection for Street Crime Surveillance
2014 - 2017	Development of a 3-D ?-Patterning Process for Vertically Aligned Cardon Nanotubes (VACNT) for New Types of Sensor Fabrication
2014 - 2016	Implementation of Halal Certification System for small and Medium Size Food Enterprise under Lembaga Pertubuhan Peladang
2014 - 2017	Development of a 3-D ?-Patterning Process for Vertically Aligned Cardon Nanotubes (VACNT) for New Types of Sensor Fabrication

2013 - 2016	Novel Real-Time Snatch Robbery Detection And Prediction For Smart Surveillance System
2013 - 2015	Development of Multi-Agent Autonomous Surface Vessel (ASV) System Bathymetry Survey
2012 - 2015	Design and Development of Autonomous Assistive Devices using EMG Signal for Functional Rehabiliation
2012 - 2015	Design and Development of Radiation Mapping Robot
2011 - 2015	RU 2011: Design of a Camera Equipped Micro UAV With Human Tracking Capability
2011 - 2014	RU 2011: The Development Of An FPGA-based Smart FES (Functional Electrical Stimulation) Device
2010 - 2012	Development of an Real-time automated surveillance system with Human Tracking Capability

PUBLICATIONS

Article

2020	[Software optimization of vision-based around view monitoring system on embedded platform.](#) Journal of the Society of Automotive Engineers Malaysia , 4 (1) pp.73-81
2018	[Design and development of image based lane warning and anti-collision detection system.](#) Journal of Mechanical Engineering , SI (6) pp.95-105
2018	[An analysis of a flexible dry surface electrodes.](#) Indonesian Journal of Electrical Engineering and Computer Science , 10 (1) pp.74-83
2018	[Vision-based lane departure warning system.](#) Journal of the Society of Automotive Engineers Malaysia , 2 (2) pp.166-176
2018	[Features-based moving objects tracking for smart video surveillances: A review.](#) International Journal on Artificial Intelligence Tools , 27 (2)
2017	[Intelligent surveillance system for street surveillance.](#) Pertanika Journal of Science and Technology , 25 (1) pp.181-190
2016	[Moving object detection and classification using neuro-fuzzy approach.](#) International Journal of Multimedia and Ubiquitous Engineering , 11 (4) pp.253-266
2016	[Robust face recognition against expressions and partial occlusions.](#) International Journal of Automation and Computing , 13 (4) pp.319-337
2016	[Adaptive background modeling for dynamics background.](#) Advances in Systems Science and Applications , 16 (2) pp.54-69
2016	[Analysis on the effect of stimulator parameters in electrical stimulation procedure on the human bicep muscle.](#) Jurnal Teknologi , 78 (7-5) pp.15-22

2016 [Real-time moving objects tracking for distributed smart video surveillances.](#) International Review on Computers and Software , 11 (4) pp.324-335

2015 [Formation of hydrophobic surface using two stages electrodeposition method.](#) Advanced Materials Research , 1115 pp.226-229

2015 [Coincidence detection using spiking neurons with application to face recognition.](#) Journal of Applied Mathematics (534198) pp.1-20

2014 [Fabrication of hip and pelvis part for designing acetabular implant by using Fused Deposition Modeling (FDM) machine.](#) Advanced Materials Research , 875-87 pp.1235-1238

2013 [An investigation of fatigue phenomenon in the upper limb muscle due to short duration pulses in an FES system.](#) IOP Conference Series: Materials Science and Engineering , 53 (012067) pp.1-8

2013 [Human body parts detection using YCbCr color space.](#) Applied Mechanics and Materials , 393 pp.556-560

2013 [Performance comparison between ANN and PCA techniques for road signs recognition.](#) Applied Mechanics and Materials , 393 pp.611-616

2013 [Performance comparison between RGB and HSV color segmentations for road signs detection.](#) Applied Mechanics and Materials , 393 pp.550-555

2013 [Object distance and size measurement using stereo vision system.](#) Advanced Materials Research , 622/23 pp.1373-1377

2013 [Intelligent technique for grading tropical fruit using magnetic resonance imaging.](#) International Journal of Scientific & Engineering Research , 4 (7) pp.216-225

2013 [Colour-based object detection and tracking for autonomous Quadrotor UAV.](#) IOP Conference Series: Materials Science and Engineering , 53 (1) pp.012086

2013 [Performance analysis of robust road sign identification.](#) IOP Conference Series: Materials Science and Engineering , 53 (1) pp.012017

2013 [ANFIS -based navigation for HVAC service robot with image processing .](#) IOP Conference Series: Materials Science and Engineering , 53 (1) pp.012087

2013 [Improved 3D limit-cycle navigation method for path planning quad rotor.](#) IOP Conference Series: Materials Science and Engineering , 53 (1) pp.012084

2012 [Indoor UAV positioning using stereo vision sensor.](#) Procedia Engineering , 41 pp.575 - 579

2012 [Out-of-Plane rotated object detection using patch feature based classifier.](#) Procedia Engineering , 41 (2012) pp.170 - 174

2012 [Face recognition from single sample per person by learning of generic discriminant vectors.](#) Procedia Engineering , 41 pp.465-472

Conference or Workshop Item

2020 [Low cost piezoresistive pressure sensor matrix for pressure ulcer prevention and management.](#) **In: 2019 7th International Conference on Mechatronics Engineering (ICOM) 2019**

2020	[Car detection using cascade classifier on embedded platform.](#) **In: 7th International Conference on Mechatronics Engineering, ICOM 2019**
2019	[Effects of hydrogen during annealing process of graphene synthesis via chemical vapor deposition.](#) **In: Nanotech Malaysia 2018 in conjunction with 3rd International Conference on Enabling Science and Nanotechnology (ESciNano 2018), 5th Malaysia Workshop on 2D Materials and Carbon Nanotube (2DMC 2018)**
2019	[Electrical stimulation in combating pressure ulcer for immobilize subjects: a conceptual framework.](#) **In: International Conference on Biomedical Engineering**
2017	[Impact of cobalt-60 gamma radiation source on electronic devices using Geant4.](#) **In: 2016 IEEE International Symposium on Robotics and Intelligent Sensors (IRIS 2016)**
2017	[Accelerated learning programme for robotic competition.](#) **In: 3rd National Conference on Knowledge Transfer (NCKT'16)**
2017	[Real-time human activity recognition.](#) **In: 6th International Conference on Mechatronics - ICOM'17**
2017	[Development of autonomous radiation mapping robot.](#) **In: IEEE International Symposium on Robotics and Intelligent Sensors, IRIS 2016**
2017	[Development of autonomous radiation mapping robot.](#) **In: IEEE International Symposium on Robotics and Intelligent Sensors, IRIS 2016**
2015	[Development of land target following system of hexacopter.](#) **In: The 10th Asian Control Conference 2015 (ASCC 2015)**
2015	[Development of load carrying and releasing system of hexacopter.](#) **In: 2015 10th Asian Control Conference (ASCC 2015)**
2014	[Adaptive background reconstruction for street surveillance.](#) **In: International Conference on Computer and Communication Engineering (ICCCE 2014)**
2014	[Vision aided path planning for mobile robot.](#) **In: International Conference on Computer & Communication Engineering 2014**
2014	[Autonomous navigation of mobile robot using kinect sensor.](#) **In: International Conference on Computer and Communication Engineering (ICCCE 2014)**
2014	[Analysis on background subtraction for street surveillance.](#) **In: International Conference on Computer and Communication Engineering (ICCCE 2014)**
2014	[Detection of different classes moving object in public surveillance using artificial neural network (ANN).](#) **In: International Conference on Computer and Communication Engineering (ICCCE 2014)**
2014	[Analysis of artificial neural network and viola-jones algorithm based moving object detection.](#) **In: International Conference on Computer and Communication Engineering (ICCCE 2014)**
2014	[Real-time tracking using edge and color feature.](#) **In: International Conference on Computer and Communication Engineering (ICCCE 2014)**

2014	[Features selection for multi-camera tracking.](#) **In: International Conference on Computer and Communication Engineering (ICCCE 2014)**
2014	[Face recognition using illumination-invariant local patches.](#) **In: 2014 5th International Conference on Intelligent and Advanced Systems (ICIAS 2014)**
2013	[Low voltage DC power supply with spike-blocking features.](#) **In: 2013 IEEE International Instrumentation and Measurement Technology Conference: Instrumentation and Measurement for Life (I2MTC 2013)**
2012	[Stereo vision images processing for real-time object distance and size measurements.](#) **In: International Conference on Computer and Communication Engineering (ICCCE 2012)**
2012	[The design of non-invasive Functional Electrical Stimulation (FES) for restoration of muscle function.](#) **In: International Conference on Computer and Communication Engineering (ICCCE 2012)**
2012	[Skin region detector for real time face detection system.](#) **In: International Conference on Computer and Communication Engineering (ICCCE 2012)**
2010	[Square patch feature: faster weak-classifier for robust object detection.](#) **In: 11th International Conference on Control Automation Robotics & Vision (ICARCV), 2010**
2010	[Square patch feature based face detection architecture for high resolution smart camera.](#) **In: 4th ACM/IEEE International Conference on Distributed Smart Cameras, ICDSC 2010**
2010	[A Bayesian network-based framework with Constraint Satisfaction Problem (CSP) formulations for FPGA system design.](#) **In: 21st IEEE International Conference on Application-specific Systems, Architectures and Processors, ASAP**
2009	[A BBN-based framework for adaptive IP-reuse.](#) **In: Proceedings of the 6th FPGAworld Conference**
2009	[Face detection system design for real time high resolution smart camera.](#) **In: Third ACM/IEEE International Conference on Distributed Smart Cameras, 2009. ICDSC 2009**
2009	[Exploiting Bayesian belief network for adaptive IP-reuse decision.](#) **In: Digital Image Computing: Techniques and Applications 2009 (DICTA '09)**
2007	[An automated face recognition system for intelligence surveillance: smart camera recognizing faces in the crowd.](#) **In: Distributed Smart Cameras, 2007. ICDSC '07. First ACM/IEEE International Conference on**
2007	[Real-Time Face Detection and Tracking for High Resolution Smart Camera System.](#) **In: Digital Image Computing Techniques and Applications, 9th Biennial Conference of the Australian Pattern Recognition Society on**
2007	[Optimizing Resources of an FPGA-based Smart Camera Architecture.](#) **In: 9th Biennial Conference of the Australian Pattern Recognition Society on Digital Image Computing Techniques and Applications,**

Book

2019 [Robot design handbook: ROBOCON Malaysia 2019.](#) IIUM Press, International Islamic University Malaysia . ISBN 9789674910549

2011 [Mechatronics book series: control and intelligent systems.](#) IIUM Press . ISBN 9789674181765

Book Section

2011 [Intelligent egg incubator: introduction.](#) **In: Mechatronics book series: system design and signal processing (volume 2)** IIUM Press . ISBN 9789674181321 , pp.116-124

2011 [Intelligent egg incubator: mechanical design.](#) **In: Mechatronics book series: system design and signal processing (volume 2)** IIUM Press . ISBN 9789674181321 , pp.125-136

2011 [Intelligent egg incubator: system integration and results.](#) **In: Mechatronics book series: System design and signal processing** IIUM Press . ISBN 9789674181321 , pp.137-156

2011 [Autonomous unicycle robot using reaction wheel pendulum: mechanical design .](#) **In: Mechatronics Book Series: Robotics and Automation** IIUM Press . ISBN 9789674181529 , pp.94-102

2011 [Autonomous unicycle robot using reaction wheel pendulum: controller design .](#) **In: Mechatronics Book Series: Robotics and Automation** IIUM Press . ISBN 9789674181529 , pp.103-111

2011 [Autonomous unicycle robot using reaction wheel pendulum: integration and results .](#) **In: Mechatronics Book Series: Robotics and Automation** IIUM Press . ISBN 9789674181529 , pp.112-117