

# YASIR BIN MOHD. MUSTAFAH



- KULLIYAH OF ENGINEERING
- IIUM Gombak Campus
- Email address:  
[yasir@iium.edu.my](mailto:yasir@iium.edu.my)

## المؤهل العلمي

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

## مسؤوليات التدريس

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
Project II	2019/2020
REAL TIME SYSTEMS	2014/2015 2015/2016 2016/2017
SEMINAR	2010/2011

## المشاريع البحثية

In Progress

- 2020 - Present** Industry@University: 4IR Competence Centre
- 2019 - Present** The Industrial Internet of Things Course Module Development and Training of Trainers
- 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 Malaysia (NAHRIM)
- 2019 - Present** KKR Gimmick Video, Drone and Robot For Sambutan Hari Profesion Teknikal Negara
- 2019 - Present** Modelling Facial Point Cloud Video as Novel Biometric Using 4D Deep Neural Network for Driver Drowsiness Detection
- 2019 - Present** Development of Ocean-Grade ASV for geo inspection and survey application
- 2018 - Present** Service Between Delloyd R&D Sdn. Bhd., IIUM for CREST I-Grasp Process
- 2018 - Present** P11C2-17 (SMART DRIVER ASSISTANCE SYSTEM)
- 2018 - Present** Deep Neural Network Model for River Hydromorphology Characterization from Aerial Photogrammetry Point Cloud
- 2017 - Present** Development of A Modular, Scalable System of Adas Simulator
- 2017 - Present** Development of Advanced Driver Assistance System (Professional Service on Algorithm Design)
- 2017 - Present** Elucidating the Effects of Plasma Density on Graphene Growth from In-Situ Measurements by a Langmuir's Probe
- 2017 - Present** Development Algorithms for Adas Functions Based on Camera Sensors
- 2017 - Present** Development Of Advanced Driver Assistance System (System Integration)
- 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**

**2017 - 2019** Development Of Advanced Driver Assistance System (System Integration)

**2016 - 2019** Novel Tactile Sensory Surface Mat with Electrical Stimulation (SMES)for the Prevention of Pressure Ulcers due to Immobility

**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)

**2015 - 2017** Accelerated Learning Program for Robotic Competition

**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

**2014 - 2018** Mathematical Analysis to Estimate Optimal Shunt Impedance for Piezoelectric Transducer to Maximize Vibration Energy Dissipation in Non-Deterministic Sub-Systems

**2014 - 2017** Development of a 3-D ?-Patterning Process for Vertically Aligned Cardon Nanotubes (VACNT) for New Types of Sensor Fabrication

**2014 - 2016** Real Time Anomaly Detection for Street Crime Surveillance

**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 Rehabilitation

**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

Article

- 2018** [Vision-based lane departure warning system.](#) Journal of the Society of Automotive Engineers Malaysia , 2 (2) pp.166-176
- 2018** [Design and development of image based lane warning and anti-collision detection system.](#) Journal of Mechanical Engineering , SI (6) pp.95-105
- 2018** [Features-based moving objects tracking for smart video surveillances: A review.](#) International Journal on Artificial Intelligence Tools , 27 (2)
- 2018** [An analysis of a flexible dry surface electrodes.](#) Indonesian Journal of Electrical Engineering and Computer Science , 10 (1) pp.74-83
- 2017** [Intelligent surveillance system for street surveillance.](#) Pertanika Journal of Science and Technology , 25 (1) pp.181-190
- 2016** [Adaptive background modeling for dynamics background.](#) Advances in Systems Science and Applications , 16 (2) pp.54-69
- 2016** [Real-time moving objects tracking for distributed smart video surveillances.](#) International Review on Computers and Software , 11 (4) pp.324-335
- 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** [Robust face recognition against expressions and partial occlusions.](#) International Journal of Automation and Computing , 13 (4) pp.319-337
- 2016** [Moving object detection and classification using neuro-fuzzy approach.](#) International Journal of Multimedia and Ubiquitous Engineering , 11 (4) pp.253-266
- 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** [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
- 2013** [Object distance and size measurement using stereo vision system.](#) Advanced Materials Research , 622/23 pp.1373-1377
- 2012** [Face recognition from single sample per person by learning of generic discriminant vectors.](#) Procedia Engineering , 41 pp.465-472
- 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

#### **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** [Development of autonomous radiation mapping robot.](#) In: **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** [Development of autonomous radiation mapping robot.](#) In: **IEEE International Symposium on Robotics and Intelligent Sensors, IRIS 2016**
- 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 [Real-time human activity recognition.](#) In: **6th International Conference on Mechatronics - ICOM'17**
- 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 [Face recognition using illumination-invariant local patches.](#) In: **2014 5th International Conference on Intelligent and Advanced Systems (ICIAS 2014)**
- 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)**
- 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 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**
- 2010 [Square patch feature: faster weak-classifier for robust object detection.](#) In: **11th International Conference on Control Automation Robotics & Vision (ICARCV), 2010**
- 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. ICDS-C 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. ICDS-C '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  
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