Date: 15/01/2017

ALI HASSAN

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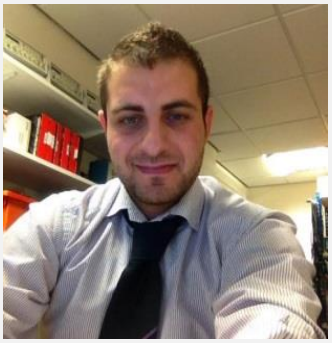

EDUCATION

- **2012 – 2015**

PhD Engineering
The University of Northampton

- Active Vibration Control for a Free Piston Stirling Engine Generator
- Collaboration with Microgen Engine Corporation (MEC)
- Patent: Vibration damper WO2015150427 A1

- **2011 – 2012 (Distinction)**

MSc. Mechatronics Systems
Kingston University-London

- Winner of School of Mechanical and Automotive Engineering prize.
- Dissertation: Design of an Adaptive cruise control (ACC) using fuzzy logic for a robotic vehicle- Conference Publication.
- Analysis of forces on a crank shaft with a piston with a 3-linkage mechanism using NX software
- Adaptive cruise control for a robotic vehicle with PID control and Fuzzy logic control
- Modelling of a robotic Arm using Solidworks

- **2008 – 2011**

BSc. (Hons) Engineering
The University of Northampton

- 1:1 first class honors - Winner of “The Coburn Award” for best achievement
- Mechanical, Electrical and Electronics, Control systems, C Programming PIC and Arduino, Modelling and Simulation, Matlab/Simulink/Simscape, NI LabVIEW

- **2009 – 2010**

NVQ Level 2 PEO (Performing Mechanical Engineering Operations)
Northampton College

- Working safely and Efficiently in Engineering Environment
- Performing Mechanical Operations using Lathes and Milling Machines
- Using and communicating Technical Information

WORK

- **SEP 2015 – Present**

Customer Support Engineer (Software)

Curtis Instruments Ltd

Job Role: software development and commissioning of Industrial Electric Vehicle (EV) systems. The role involves project management, customer interfacing and technical expertise.

- Microprocessor control systems and programming: Development of Vehicle Control Language (VCL) software
- CANOpen protocol, Vector, CANeds
- Electric motor control
- Hydraulic system control
- Embedded C: Development of C and graphics software for Instrumentation products
- Control system configuration
- Development of Vehicle Systems and Instrumentation product specifications
- Provision of software file maintenance and software updates
- Technical evaluation of system products
- Commissioning of vehicles at customer locations within the UK and Europe

- **SEP 2012 – Present**

Associate Lecturer in Engineering – Part Time

The University of Northampton

Job Role: The main role involves delivery of lectures and assessments for undergraduate courses in the following areas

- Control systems
- Mechanical principles: Statics and Dynamics
- Modeling and Simulation: Matlab/Simulink
- Electrical and Electronics principles
- Project supervision

- **APR 2010 – SEP 2010**

Engineering Internship

Festo ltd Northampton

- Project engineering
- Order processing (using SAP)
- Costing
- Design in CAD and Solidworks
- Assisting with Handling and Positioning team projects

- **SEP 2009-APR 2010**

Engineering Internship

Cosworth ltd Northampton

- Quality reports
- Engineering Inspections: Taylor- Hobson instruments
- Non-destructive testing: liquid-penetrant method and UT for automotive components

SKILLS

Software

- Matlab/Simulink/Simscape
- LabView, Real time and FPGA modules
- Ni Multisim
- PIC – Embedded C
- Arduino - Embedded C
- Keil IDE
- Codesys
- Solidworks
- CANbus and vehicle control language
- Vector: CANeds for CAN bus communication protocol
- Microsoft Office tools

Rapid Prototyping Hardware

- CompactRIO/ CRio FPGA, MyRIO, DANI ROBOT
- Curtis Motor Controllers with VCL (Vehicle Control Language, Curtis Instruments)

Languages

- Arabic-native
- English-Fluent

Other Skills

- Skilled Team Worker
- Strong verbal and commination skills
- Fast learner
- Problem solving attitude
- Ability to adapt rapidly with project changes

EVENTS , TRAINING, CONTRIBUTION

- **2015/2016**

Cutis Instruments Ltd (UK)

- Received training on AC motor control
- Received training on Electric Power Steering control (EPS)
- Received training on CANbus
- Received training on Industrial material handling vehicle control and the involved British/European Standards in this industry
- Corporate sales training: Trends and Directions
- Participation IMHX exhibition – NEC Birmingham
- Delivering technical training for customers on Curtis controllers and instruments

- **2014/2015**

The University of Northampton

- 6th Symposium on Lift and Escalator Technologies, September 2016
- The 5th Symposium of Lift and Escalator Technologies, September 2015
- The 5th Symposium on Mechanics of Slender Structures Moss 2015, September 2015
- Research presentation to ThyssenKrupp Team - The University of Northampton vibration laboratory
- Poster Presentation: “Active vibration control with active tuned mass dampers” , The University of Northampton
- The 16th International Conference on Mechatronics – Mechatronika 2014
- Annual Research Conference 2014 for Postgraduate Research Degree Students- The University of Northampton
- Poster Presentation: “Modelling and Simulation of Vibration Systems”, The University of Northampton

- **2013**
  - UK skills- NEC Birmingham: Mentoring students at the University of Northampton in industrial control
  - Training Course: COMSOL
  - Training Course: Advanced Matlab/Simulink
  - Online training course on NI LabVIEW RT programming

- **2012**
  - 2nd Symposium on Lift and Escalator Technologies 2012- The University of Northampton
  - Training Course: Matlab and Simulink
- **2011**

Kingston University- London

- Students: National Instruments day

- **2010**
  - Presenting at the Northampton Engineering Training Partnership (NETP) Awards Event- The University of Northampton

- **2008**

Lebanese International University (LIU) Lebanon

- Summer course in Mathematics: linear algebra, calculus

- **2008**

Lebanese University (Faculty of Engineering- Half Term)

- Passed the first term at the LU and then relocate to the UK

PROFFESSIONAL MEMBERSHIP

- MIET

PUBLICATION & PATENTS

- Hassan, A., Torres-Perez, A., Kaczmarczyk, S. & Picton, P. (2016), 'Vibration control of a Stirling engine with an electromagnetic active tuned mass damper ', Control Engineering Practice Volume 51, June 2016, Pages 108–120
- Hassan, A., Torres-Perez, A., Kaczmarczyk, S. & Picton, P. (2015), 'The Effect of Time Delays on Control Stability of an Active Tuned Mass Damper ', The 5th Symposium on Mechanics of Slender Structures Moss 2015.
- Torres-Perez, A., Hassan, A., Kaczmarczyk, S. & Picton, P. (2015), 'Assessment of an Active DVA Using Mechanical-Electrical Analogies', The 5th Symposium on Mechanics of Slender Structures Moss 2015.
- Hassan, A., Torres-Perez, A., Kaczmarczyk, S. & Picton, P. (2015), 'Active Vibration Control For A Free Piston Stirling Engine Generator Using A Voice Coil Actuator', MM Science Journal.
- Hassan, A., Torres-Perez, A., Kaczmarczyk, S. & Picton, P. (2014), "Active vibration control strategies for a Free Piston Stirling Engine generator", *Mechatronics - Mechatronika (ME), 2014 16th International Conference on Mechatronics*, pp. 381.
- Hassan, A. and Collier, G. (2013), "*Adaptive Cruise Control for a Robotic Vehicle Using Fuzzy Logic*", In: Brezina, Tomas and Jablonski, Ryszard (eds.) Mechatronics 2013: International Conference, Brno, Czech Republic, October 2013 Proceedings, Berlin, Germany: Springer. pp. 535 - 543. ISBN 9783319022932.
- Hassan, Walid, et al. (2013), "Automated Competency Management System: An Advanced Approach to Competence Management Efficiency." *European Journal of Business and Management* 5.16 (2013): 64-74.
- **Patent**: Vibration Damper (WO2015150427 A1)

REFERENCES

1. **Prof. Stefan Kaczmarczyk**

Professor of Applied Mechanics
School of Science & Technology,
The University of Northampton,
St George's Avenue,
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NN2 6JD
Tel: +44 1604 8933158
Email: Stefan.Kaczmarczyk@northampton.ac.uk

Prof. Kaczmarczyk taught me modules on dynamics and vibration in addition to modelling and simulation during my undergraduate engineering degree. He then supervised my research degree. We have published a number of conference and journal publications together.

2. **Prof. Phil. Picton**

Professor of Engineering
School of Science & Technology,
The University of Northampton,
St George's Avenue,
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NN2 6JD
Tel: +44 1604 893084
Email: Phil.Picton@northampton.ac.uk

Prof. Picton taught me electrical and computing modules during my undergraduate engineering degree. He then supervised my research degree. We have published a number of conference and journal publications together.

3. **Dr. Jonathan Adams**

Head of Department
School of Science & Technology,
The University of Northampton,
St George's Avenue,
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NN2 6JD
Tel: +44 1604 893074
Email: Jonathan.Adams@northampton.ac.uk

As the head of the engineering department, Dr. Adams was my line manager during my teaching career as an associate lecturer at the University of Northampton.

4. **Mr. Kerry Green**

Director of European Support Engineering
Curtis Instruments (UK)
05 Upper priory St.
Northampton
NN1 2PT
Tel: +44 7802954962
Email: greenk@curtisinst.co.uk

As the director of European support engineering at Curtis instruments (ltd), Kerry was my direct line manager during my work at Curtis instruments.

5. Miss. Gordana Collier

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Oxford Brookes University
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Wheatley
OXFORD OX33 1HX
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Email: gordanacollier@brookes.ac.uk

Gordana was the program lead of the MSc. Mechatronics Systems program at Kingston University – London. Gordana taught me a range of postgraduate modules during my MSc. Degree and also supervised my final year project. We published a conference paper together.