Emad Maher Natsheh

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Date of Birth: 8 May, 1985.

Nationality: Jordanian

Education

2010- 2013: PhD in Computer Engineering, Manchester Metropolitan University, UK.

Thesis Title: Hybrid Power Systems Energy Management Based on Artificial Intelligence
Supervisors: Dr. Alhussein Albarbar, Prof. Ken S Hurst

Brief Synopsis of Research:
The thesis presents a novel adaptive scheme for energy management in stand-alone hybrid power systems. The proposed management system is designed to manage the power flow between the hybrid power system and energy storage elements in order to satisfy the load requirements based on artificial neural network (ANN) and fuzzy logic controllers. The neural network controller is employed to achieve the maximum power point (MPP) for different types of photovoltaic (PV) panels. The advance fuzzy logic controller is developed to distribute the power among the hybrid system and to manage the charge and discharge current flow for performance optimization. The developed management system performance was assessed using a hybrid system comprised PV panels, wind turbine (WT), battery storage, and proton exchange membrane fuel cell (PEMFC).

Research Interests:
alternative energy sources, fuel cells, power system modelling, energy management and control algorithms based on artificial intelligence.

2009 – 2010: MSc in Computer and Network Technology (Distinction), Manchester Metropolitan University, UK.

Modules included: Communication Systems, Agile Computer systems, Computer Systems, Electronic Photonics Systems, Integrated Management Systems and Programming.

2003 – 2008: BSc in Computer Engineering, An-Najah National University, Palestine.

Modules included: artificial Intelligence, Structured Programming, Software Engineering (Including Object Oriented Theory), Networks Communication Systems, electronics, microprocessor, microcontroller, and signal processing …

Employment

(Aug 2013 – Present day) Assistant Professor, Dept. of Computer Engineering, An-Najah National University, Nablus, Palestine.

(June 2008 – Aug 2009): IT Specialist /Web Programmer to improve the quality of e-learning using the SCORM standard, An-Najah National University, Nablus, Palestine.

(Sep 2010 – July 2013) Teaching Assistance, Dept. of Engineering and Technology, Manchester Metropolitan University, Manchester, UK (led seminars and tutorial classes, supervised undergraduates in the laboratory).

Skills

- ***Computing Skills:***

  - Fairly extensive experience of OOP programming languages including JAVA, C, C++, C #, and Visual Basic.
  - Experienced with web page development and design tools: PHP, HTML, AJAX, JAVA Script, SQL, and Flash.
  - Operating Systems: UNIX, Windows 7, Windows Vista, Windows XP.
  - Applications: Microsoft Office Suite, Internet Explorer, Paint Shop Pro, FPGA, ITGuru, PSPICE, SIMULINK, Dreamweaver and several e-mail packages.

- ***Teaching Skills:***

  - Taught different type of subjects to different level of students (from year 1 to MSc level).
  - Supervise lab sessions for undergraduate and postgraduate students.

- ***Other skills***

  - Knowledge of research methodologies
  - Statistical software: extensive experience with MatLab.
  - Data and information collection
  - Writing and presenting reports

Referees

[1] Dr Al-Hussein Albarbar
Manchester Metropolitan University
Department of Engineering and Technology,
Chester Street, Manchester M1 5GD
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[2] Prof. Maher Natsheh
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Vice President of academic affairs
Nablus, West Bank, Palestine
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Conferences, Presentations and Courses Attended

- **IET Conferences (RPG (2 PAPERS)), 2011.**
- **IEEE Conference, ISGT, 2011.**

Publications/Conference Papers

[1] Natsheh, E.M., Natsheh, A.-R., & Albarbar, A. (2013) Intelligent Controller for Managing Power Flow within Standalone Hybrid Power Systems, IET Science, Measurement & Technology, 7, (4), pp. 191-200.

[2] Natsheh, E.M., & Albarbar, A. (2013) Hybrid Power Systems Energy Controller Based on Neural Network and Fuzzy Logic, Smart Grid and Renewable Energy, 4, (2), pp. 187-197.

[3] Natsheh, E.M., & Albarbar, A. (2012) Solar Power Plant Performance Evaluation: Simulation and Experimental Validation, Journal of Physics: Conference Series, 364, (1), pp. 1-13.

[4] Natsheh, E.M., & Albarbar, A. (2011) Photovoltaic Model with MPP Tracker for Standalone /Grid-Connected Applications, IET Conference on Renewable Power Generation, Edinburgh, UK.

[5] Natsheh, E.M., Blackhurs, E.J., & Albarbar, A. (2011) PV System Monitoring and Performance of a Grid Connected PV Power Station Located in Manchester-UK, IET Conference on Renewable Power Generation, Edinburgh, UK.

[6] Natsheh, E.M., Albarbar, A., & Yazdani, J. (2011) Modelling and Control for Smart Grid Integration of Solar/Wind Energy Conversion System, 2nd IEEE PES International Conference and Exhibition on Innovative Smart Grid Technologies, Manchester, UK.

Professional Memberships

AMIET	Institute of Engineering and Technology, 2010.
IEEE	The Institute of Electrical and Electronics Engineers, 2011.