Mohammad A. Mezher, Dr.

Ph.D. in Intelligent Systems (AI), Computer Science
Chair of Computer Science Department, FBSU

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RESEARCH INTEREST

Intelligent Systems includes:
Support Vector Machine (SVM),
Fuzzy Logic (FL),
Neural Networks (NN),
Hybrid systems,
Genetic Algorithms (GAs),
Genetic Programming (GP),
Particle Swarm Optimisation (PSO),
Non-linear PCA

Image Processing includes:
Binary Classification,
Multi-Classification,
Regression,
Data Sampling Methods,
Linear and Nonlinear Models

EDUCATION

2008 – 2011   **PhD in Computer Science, Brunel University, UK**

Thesis Title: New Evolutionary Algorithms for Model Selection
Grade: Excellent Class Honours
Supervisors: Dr. M. Abbod, Professor J. Stonham, and Professor D. Linkens

Brief Synopsis of Research:
Machine Learning (ML), a field of artificial intelligence, is concerned with the design and development of new algorithms that allow computers to learn behaviours based on observed data. A new interesting research in ML is based on learning automatically to make intelligent decisions available on complex data. In other words, the difficulty lies in the fact that the set of training data are possible to give all possible behaviours outputs to the set of testing data. Therefore, the learner system must generalize from the given training data to be able to improve the system performance in new testing data. One of the major learner system algorithms in ML is support vector machines. The thesis presented an invented of genetic folding algorithm. GF is a novel framework of learning scheme of model selection embedded in SVM. However, the new proposed algorithms focused on either adapting parameters or developing new kernels based on EA.

Details of the invented revolutionary genetic folding algorithm are on www.genetic-folding.com

2005 – 2006	**MSc in Computer Science, Universiti Sains Malaysia, Malaysia**

Thesis Title: Genetic Algorithm in RNA Folding by Using Java language for Different Operating Systems
Grade: (A-)

Modules Included: Artificial Intelligent, Computer Vision and Image Processing, Advanced Distributed Systems Concepts and Design, Advanced Data Communication and Networks, Computer Security and Cryptography, E-Commerce

2000 – 2004	**BSc in Computer Science, Al-Zaytoonah University, Jordan**

Project Title: Alumni Website and Database by using VB.net and SQL Server
Grade: (A)

Modules Included: Artificial Intelligent, Operating Systems, Data Structure, Programming Languages, Data Simulation and Compilers Design

EMPLOYMENT

Sep. 2013- Now	**Chairman of CS Dep., Fahad Bin Sultan University, KSA**

- **Duties have been assigned**
  - Proposed new IT program, syllabuses, plans, reports, specifications and courses.
  - Initiate the CS master program
  - To ensure the department is managed effectively.
  - To ensure the department committees functioning properly.
  - To provide support and reports to the dean officer.
  - Developing courses curriculum as per accreditation and international standards
  - Developing master program with different tracks
  - Revising the syllabuses, course report and course specification of all CS and CIT courses to meet NCAAA format
  - Be responsible and accountable for setting and advancing the academic strategy of the Department in line with Faculty and University strategic plans and direction
  - Refresh and develop new training courses in cooperating with ACM student chapter in order to attract new students and helps the community with services
  - To evaluate the CS transfer students' files, and confirm that graduating students have satisfied departmental requirements.
  - To equate the transcripts and evaluate all equivalent transcripts for all FBSU students joining the university

Sep. 2011- Now	**Assistant Professor, Fahad Bin Sultan University, KSA**

- **Courses taught at FBSU**
  - Artificial Intelligence
  - Algorithms and Data structure
  - Final Year Project I and II
  - Theory of Computation
  - Software Engineering

- Design and Analysis of Algorithms
- Computer programming for engineers
- Computing/Engineering/ Business Ethics
- Introduction to Multimedia
- Operating Systems
- Computer Programming 2 Java and lab
- Parallel Computing
- Introduction to Linux and lab
- Decision Support System

- **Final Year Projects Supervised**
  - A Mediation Purchase System (CS-2015)
  - Robotic Chess Player (CE-2015)
  - Smart Online Shopping System (CS-2014)
  - Online Student Services (CS-2014)
  - Fingerprint ATM Security System (CS-2014)
  - Vending printer/Fax Machine (CS-CE-2013)
  - Pilgrim Tracking and Tour System (CS-2013)
  - Deaf-Sign recognition System (CS-2012)
  - Registration System (CS-2012)

- **University/College Duties**
  - Final Year project 2 Coordinator
  - Member of University Research Board
  - Member of department curricula committee
  - Member of computing council committee
  - Member of college research committee
  - Member of Final Year Project committee
  - Member of foundation and bridging committee
  - Nominated as acting dean of the computing college (declined)

Apr. -Oct. 2008   **IT Administrator, Grovelands Medical Centre, Reading, UK**
- Monitor IT Infrastructure
- Trouble shooting of IT Infrastructure
- Upgrade of Clinical Application
- Liaise with PCT IT, iSoft and other service providers
- Own the backup process of the surgery
- Monitor and Manage registration issues
- QOF monitoring and Mange registration issues
- Develop and produce ad-hoc reports from computer systems
- Assist in training of staff in relation to "Docman" software
- Administer the recall service for all monitoring systems
- Drive and implement QOF Metrics

2007-2008   **Teaching Assistant, Loddon School, Hampshire, UK**
- Provide Consistent education and Support for 28 children who have the most severe and complex learning difficulties
- Ensured health & safety procedures were adhered
- To monitor and Record progress through scale of assessments
- To meet pupil needs in all aspects
- Analyse each pupil's complex restrictive behaviours
- Encourage pupils to learn ways to manage their own behaviours and cope better each pupil's needs
- Use the most appropriate methods of positive teaching suited

SKILLS AND TRAINING

Computing Skills:
- Programming Languages: C, C++, C#, Java, .net, Objective-C, Swift.
- Mathematical Models: Matlab, SPSS.
- Internet Development: DHTML, XML, Javascript, ASP.net, CSS, PHP.
- Technical Drawing: Microsoft Visio, Photoshop, After Effects.
- Operating Systems: Linux, Windows, Mac.
- Database: Oracle, Microsoft Access.
- Member of online training platforms: Udemy, Udacity
- IPhone Apps developer courses, 2014-2015

Presentation & Analysis:
- Organizing an NCAAA preparation stage workshop
- Developed ability to produce reports and presentations to a professional standard.
- Proficient in assessing data and formulating solutions.
- Proficient in organizational structures and planning

Organisational &Team Leaders:
- Effective at time management and prioritising tasks to achieve deadlines.
- Extensive experience of juggling different tasks and bringing these to a successful conclusion.
- Strong team working, leadership and communication skills.
- Simulate different models.
- Assist in design and develop programming models.

Training and Certificates:
- Oracle Reports Developer 10g: Build Reports
- Oracle Reports Developer 10g: Build Internet Applications 1
- Oracle Reports Developer 10g: Build Internet Applications 2
- Oracle Database 10g: Develop PL-SQL Program Units
- Research Methodology and Scientific Writing skills
- Workshop titled "Flipping your Classroom" Organized by CEC FBSU in collaboration with AUB, held on April 25, 2015.
- Workshop titled "Assessment of Learning Outcomes" delivered by NCAAA, Held on Oct. 21-22, 2015.
- Workshop in "Advances In Database and Data Mining", sic-scoop.org
- Online training courses: " After Effects and Photoshop", "Objective-C", "Swift" and "Web design using CSS, HTML, PHP, JAvascript"

PUBLICATIONS & CONFERENCE PAPERS

- **Books:**
1. Mohammad A. Mezher, Genetic Folding Algorithm: An Introduction to a New Evolutionary Algorithm. Published by LAP Lambert Academic Publishing (2012). ISBN 10: 3659209562 ISBN 13: 9783659209567

- **Journal Papers**
1. M. Mezher, T. Kader. Genetic Algorithm Self-Adaptive Mutation Rate for RNA Folding (GASAMR): Online **Journal** of Bioinformatics. April 2009.
2. M. Mezher, M. Abbod. Evolving Self-Adaptive Genetic Algorithm Using Nonlinear Support Vector for Classification Problems: The International **Journal** Annals Computer Science Series. June 2010.
3. M. Mezher, M. Abbod. Genetic Folding Algorithm for Model Selection Problems (An Extension Version): The International **Journal** of Artificial Intelligence, Neural Networks, and Complex Problem-Solving Technologies, Springer. Submitted on April 2011.

4. M. Mezher, M. Abbod. Analyzing The Mercer's Kernels Effect in Support Vector Machine Using Genetic Folding: The International **Journal** Annals Computer Science Series. 2011.

- **Conference Papers**
1. M. Mezher, M. Abbod. Genetic Folding: A New Class of Evolutionary Algorithm for SVM: Society's Specialist Group on Artificial Intelligence (SGAI) International **Conference** on Artificial Intelligence. **Cambridge**, UK. August 2010.
2. M. Mezher, M. Abbod. Genetic Folding: A New Algorithm for Solving Multiclass SVM Problems: Applied Intelligence, **Springer Journal**. September 2014.
3. M. Mezher, M. Abbod. Palindrome Genetic Folding for Support Vector Regression Problems: UKSim conference, **Cambridge** University, London, UK. Feb 2013.
4. M. Mezher, M. Abbod. Alignment Support Vector Classification (ASVC) for Nonlinear Problems: 7th Jordanian International Electrical and Electronics Engineering **Conference** (JIEEEC). January 2011.

- **Reviewing Papers:**
1. Parameter optimization of electrochemical machining processes using firefly algorithm and non-dominated sorting genetic algorithm. Applied Soft Computing. **Elsevier**.
2. Supervised Fuzzy Reinforcement Learning for Robot Navigation. Applied Soft Computing. **Elsevier**.
3. Novel Method to Find the Optimal Parameters of Bilateral Filter for Brain MR Image Denoising. Applied Soft Computing. **Elsevier**.
4. New Crossover and Mutation Operators of Real Coded Genetic Algorithms for Global Optimization Problems. Applied Soft Computing. **Elsevier**.
5. Multi-Agent Simulated Annealing Algorithm with Parallel Adaptive Multiple Sampling for Protein Structure Prediction. Applied Soft Computing. **Elsevier**.
6. An Extended Partitioning Technique to Transform Trees into Single-Row Networks. Applied Soft Computing. **Elsevier**.
7. Supervised Fuzzy Reinforcement Learning for Robot Navigation. Applied Soft Computing. **Elsevier**.

REVIWER/EDITORIAL BOARD

1. Engineering Applications of Artificial Intelligence, Elsevier Journal, 2011
2. SGAI International Conference on Artificial Intelligence, UK, 2011
3. The 7th Jordanian International Electrical and Electronics Engineering (JIEEE) Conference, 2011.
4. International Journal of Modern computer science and Applications: ISSN: 2321-2632
5. Automation, Control and Intelligent Systems, SciencePG
6. International Journal of innovative research in information security
7. Reviewed more than 30 journal and conference papers
8. Recently a reviewer at Applied Soft Computing journal
9. International Journal of Research in Computer Science
10. External co-supervisor for some master students

INVITATIONS

- Mechanical Engineering Department of Yuan Ze University in Taiwan (21-26 September 2009).
- Electronic and Computer Engineering Department in Brunel University in UK (12 November 2010).
- Master courses of Decision Making systems and Management Information System at Business department (declined).

MEMBERSHIP

- British Computer Society (BCS).
- ACM Member

* Jordan Computer Society (JCS).
* Asian Council Of Science Editors

REFERENCES

Dr. M. Abbod (Lecturer),
Department of Electronic and Computer Engineering,
Brunel University
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Professor J. Stonham (Undergraduate Admissions Tutor),
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