

# Ahmed Fawzi Otoom, PhD

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## Summary

I am currently working as the vice dean of the faculty of Prince Al-Hussein Bin Abdullah for Information Technology at the Hashemite University, Jordan. In the period from 2016-2020, I have worked as the head of department of software engineering at the Hashemite University, Jordan. In the period from 2011-2014, I have worked as an assistant to the dean of the faculty of Prince Al-Hussein Bin Abdullah for Information Technology. In July 2010, I finished my PhD degree in computer science from the school of computing and communications at the University of Technology, Sydney (UTS), Australia. I have excellent research and academic skills that I gained from my research and teaching work.

## Education

- Ph.D. Computer Science, University of Technology, Sydney– Australia , 2010
- M.S. Software Engineering, University of Western Sydney– Australia , 2003
- B.S. Computer Science, Jordan University of Science and Technology– Jordan, 2002

## Academic and Professional Experience

- Vice Dean of the IT Faculty, The Hashemite University, 2020-present.
- Professor, Department of Software Engineering, The Hashemite University, 2021-present.
- Head of Department of Software Engineering, The Hashemite University, 2016-2020.
- Associate Professor, Department of Software Engineering, The Hashemite University, 2016-2020.
- Assistant Professor. Department of Software Engineering, The Hashemite University, 2010-2016.
- Assistant Dean of the IT Faculty, The Hashemite University, 2011-2014.
- Research Assistant. Faculty of IT, University of Technology, Sydney– Australia , 2009
- Instructor. Department of Computer Science, Jarash University–Jordan, 2003-2005

## Research Interests & Specializations

- Machine learning and its applications in software engineering and computer vision.

## Publications and Scholarly Work

### Journal Papers (refereed)

1. **A. F. Otoom**, M. Hammad, S. Al-jdaeh, S. Awwad, S. Idwan, "Predicting the amount of files required to fix a bug", International Journal of Computing Science and Mathematics, (Accepted for publication).

2. E. E. Abdallah, **A. F. Otoom**, A. E. Abdallah, M. Bsoul, S. Awwad , "A Hybrid Secure Watermarking Scheme Using Nonnegative Matrix Factorization and FastWalsh-Hadamard Transform", *Journal of Applied Security Research*, 15(2), 185-198, 2020.
3. Y. Qawasmeh, S. Awwad, **A. F. Otoom**, F. Hanandeh, E. Abdallah, "Local Patterns For Offline Arabic Handwritten Recognition", *International Journal of Advanced Intelligence Paradigms*, 16(2), 203-215, 2020.
4. M. Hammad, H. Hijazi, M. Hammad and **A. F. Otoom**, "Mining Expertise of Developers from Software Repositories", *International Journal of Computer Applications in Technology*, 62(3), 227-239, 2020.
5. **A. F. Otoom**, A. Alzaben, R. Tlailan, M. Hammad, " Software Effort Classification with Multilayer Perceptron Neural Networks", *International Journal of Advanced Trends in Computer Science and Engineering*, 1678-1689, 9(2), 2020.
6. M. Hammad, **A. F. Otoom**, M. Hammad, N. Al-Jawabreh, R. Abu Seini, "Multiview Visualization of Software Testing Results", *International Journal of Computing and Digital Systems*, 9( 1) , 51-59, 2020.
7. **A. F. Otoom**, G. AL Kateb, M. Hammad, R.J. Sweis, H. Hijazi, "Success Factors Importance Based on Software Project Organization Structure", *Information*, 10(12), 2019.
8. **A. F. Otoom**, D. Al-Shdaifat, M. Hammad, E. E. Abdallah, A. Aljammal, "Automated labelling and severity prediction of software bug reports", *International Journal of Computational Science and Engineering*, 19(3), 334 – 342, 2019.
9. M. Hammad, R. Alzyoudi, **A. F. Otoom**, "Automatic clustering of bug reports", *International Journal of Advanced Computer Research*, 8(39), 313-323, 2018.
10. Y. Kilani, **A. F. Otoom**, A. Alsarhan, M. Almaayah, " A genetic algorithms-based hybrid recommender system of matrix factorization and neighborhood-based techniques", *Journal of Computational Science*, 28, 78-93, 2018.
11. A. H. Aljammal, H. Bani salameh, A. Qawasmeh, A. Alsarhan, **A. F. Otoom**, " A new technique for data encryption based on third party encryption server to maintain the privacy preserving in the cloud environment", 28(4), 393-403, 2018.
12. M. Bsoul, **A. F. Otoom**, A. E. Abdallah, N. Hamadneh, " An enhanced bandwidth hierarchy based replication strategy for dynamic replication in data grid", *Multiagent and Grid Systems*, 13, 163-175, 2017.
13. A. E. Abdallah, E. E. Abdallah, M. Bsoul, **A. F. Otoom**, "Randomized geographic-based routing with nearly guaranteed delivery for three-dimensional ad hoc network", *International Journal of Distributed Sensor Networks*, 12(10), 1-11, 2016.
14. **A. F. Otoom**, Emad E. Abdallah, Maen Hammad, "Breast Cancer Classification: Comparative Performance Analysis of Image Shape-Based Features and Microarray Gene Expression Data", *International Journal of Bio-Science and Bio-Technology*, 7(2), 37-46, 2015.
15. **A. F. Otoom**, E. E. Abdallah, Y. Kilani, A.Kefaye, and M. Ashour, "Effective Diagnosis and Monitoring of Heart Disease ", *International Journal of Software Engineering and its Applications*, 9(1), 143-156, 2015.
16. **A. F. Otoom**, A. Kefaye, M. Ashour, Y. Shanti, and M. Al-Majali, "Real-Time Monitoring of Patients with Coronary Artery Disease ", *International Journal of Future Computer and Communication*, 4(3), 207-210, 2015.
17. E. E. Abdallah, I. Al-Oqily, A. E. Abdallah, **A. F. Otoom**, A. Alsarhan, "Spectral Graph and Minimal Spanning Tree for 3D Polygonal Meshes Fingerprinting ", *International Journal of Information Technology and Web Engineering* , 9(4), 40-53, 2014.

18. **A. F. Otoom**, E. E. Abdallah, M. Hammad, M. Bsoul, and A. E. Abdallah, "An Intelligent System for Author Attribution Based on a Hybrid Feature Set ", *International Journal of Advanced Intelligence Paradigms*, 6(4), 328-345, 2014.
19. M. Bsoul, A. Alsarhan, **A. Otoom**, M. Hammad, and A. Al-Khasawneh "A dynamic replication strategy based on categorization for Data Grid ", *Multiagent and Grid Systems*, 10 (2), 109-118, 2014.
20. Maen. Hammad, Mustafa. Hammad, **A. F. Otoom**, and M. Bsoul, "Detecting Breaks in Design Patterns from Code Changes ", *Journal of Software*, 9(6), 1485-1493, 2014.
21. E. E. Abdallah, A. E. Abdallah, M. Bsoul, **A. F. Otoom**, and E. Al-Daoud, "Simplified Features for Email Authorship identification ", *International Journal of Security and Networks*, 8(2), 72-81, 2013.
22. **A. F. Otoom**, H. Gunes, O. Perez Concha, and M. Piccardi, "MLiT: Mixtures of Gaussians under Linear Transformations", *Pattern Analysis and Applications Journal*, 14(2), 193-205, 2011.

### Conferences and Workshops (refereed)

1. **A. F. Otoom**, S. Al-Jdaeh, M. Hammad, "Automated Classification of Software Bug Reports", *Proc. 9th International Conference on Information Communication and Management (ICICM'19)*, Prague, Czech Republic, 2019, pp. 17-21.
2. **A. F. Otoom**, M. Hammad, N. Al-jawabreh, R. Abu Seini, "Visualizing Testing Results for Software Projects ", *Proc. International Arab Conference on Information Technology (ACIT'2016)*, December 2016, Morocco.
3. **A. F. Otoom**, D. Al-Shdaifat, M. Hammad, E. E. Abdallah, "Severity Prediction of Software Bugs ", *Proc. The 7<sup>th</sup> International Conference on Information and Communication Systems (ICICS)*, April 2016, Jordan, pp. 92-95.
4. **A. F. Otoom**, E. E. Abdullah, S. Jaafer, A. Hamdallh, D. Amer, "Towards Author Identification of Arabic Text Articles", *Proc. The 5th International Conference on Information and Communication Systems (ICICS)*, April 2014, Jordan, pp. 1-4.
5. **A. F. Otoom**, O. Perez Concha and M. Piccardi, "Boosting Mixtures of Gaussians under Normalized Linear Transformations for Image Classification", *Proc. of the 7<sup>th</sup> International Conference on Information Technology and Applications (ICITA)*, November 2011, Sydney, Australia, pp 184-189.
6. **A. F. Otoom**, O. Perez Concha and M. Piccardi, "Mixtures of Gaussian Distributions under Linear Dimensionality Reduction", *Proc. of International Conference on Computer Vision Theory and Applications (VISAPP)*, May 2010, Angers, France.
7. **A. F. Otoom**, O. Perez Concha, H. Gunes and M. Piccardi, "Mixtures of Normalized Linear Projections", *Proc. of Advanced Concepts on Intelligent Vision Systems (ACIVS)*, Sep. 2009, Bordeaux, France, pp. 66-76.
8. M. Piccardi, H. Gunes and **A. F. Otoom**, "Maximum Likelihood Dimensionality Reduction in Gaussian Mixture Models with an Application to Object Classification", *Proc. of the IAPR 19<sup>th</sup> International Conference on Pattern Recognition (ICPR)*, Dec. 8-11 2008, Tampa, Florida, USA, IEEE Press, pp. 1-4.
9. **A. F. Otoom**, H. Gunes and M. Piccardi, "Feature Extraction Techniques for Abandoned Object Classification in Video Surveillance", *Proc. of the IEEE International Conference on Image Processing (ICIP)*, Oct. 12-15 2008, San Diego, California, USA, IEEE Press, pp. 1368-1371.

10. **A. F. Otoom**, H. Gunes and M. Piccardi, "Comparative Performance Analysis of Feature Sets for Abandoned Object Classification", Proc. of the IEEE International Conference on Systems, Man, and Cybernetics (SMC), Oct. 12-15 2008, Singapore. IEEE Press, pp. 1020-1025.
11. **A. F. Otoom**, H. Gunes and M. Piccardi, "Automatic Classification of Abandoned Objects for Surveillance of Public Premises", Proc. of the International Congress on Image and Signal Processing (CISP), 27-30 May 2008, Hainan, China, IEEE Press, pp. 542-549.
12. **A. F. Otoom**, H. Gunes and M. Piccardi, "Towards Automatic Abandoned Object Classification in Visual Surveillance Systems", Proc. of the Asia-Pacific Workshop on Visual Information Processing (VIP), Tainan, Taiwan, 15-17 Dec. 2007, Yueh-Min Huang and Tzone I. Wang (Eds.), pp. 143-149.
13. X. Chen, Y. Chung, F. Xu, **A. F. Otoom**, and C. Bae, "Combined Copyright Protection and Error Detection Scheme for H.264/AVC", Proc. of the WSEAS International Conference on Multimedia Systems and Signal Processing (MUSP), April 2006, Hangzhou, China, pp. 528- 531.
14. C. Bae, Y. Chung, X. Chen, and **A. F. Otoom**, "A New Error Resilient Coding Schemes for the Home Entertainment Video", Proc. of the IEEE Consumer Communications and Networking Conference (CCNC), Jan. 2006, Las Vegas, USA, pp. 1320-1321.
15. Y. Chung, P. Wang, X. Chen, C. Bae, **A. F. Otoom**, and T. P. Tran, "A Performance Comparison of High Capacity Digital Watermarking Systems", Proc. of the Knowledge-Based & Intelligent Information and Engineering Systems (KES), Sep. 2005, Melbourne, Australia, pp. 1193-1198.

#### **Book chapter**

- Y. Kilani, A. Alsarhan, M. Bsoul, **A. F. Otoom**, "Local Search Algorithms for Solving the Combinatorial Optimization and Constraint Satisfaction Problems", Soft Computing Applications, Volume 356 of the series Advances in Intelligent Systems and Computing, 199-211, Springer, 2015.

#### **Dissertation**

- "Effective Feature Sets and Dimensionality Reduction for Object Classification", PhD dissertation, University of Technology, Sydney, Australia, 2010.

<b>Teaching Experience (courses taught)</b>
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- Software Project Management (Graduate course).
- Research Project (Graduate course).
- Software Project Management.
- Software Engineering.
- Database.
- Operating systems.
- Object Oriented Programming using C++.
- Visual Programming using VB.NET.

<b>Supervision of Master Students</b>
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- Doaa Al-Shdaifat, thesis title: "Severity Prediction of Software Bug Reports", 2016
- Ruba Zudi, thesis title : "Clustering Bug Reports to Support Software Corrective Maintenance", 2018
- Sara Al-jdaeh, thesis title: "Classification of Software Maintenance Requests", 2019
- Sabah Alsofriya, thesis title: "Visualizing Software Bug Reports", 2020

## Research Activities

- I have reviewed for a number of conferences and journals. Examples include IEEE Transactions on Systems, Man, and Cybernetics: Systems (SMC: Systems), IEEE Transaction on Industrial Informatics, Image and Vision computing journal, Sensors journal, and others.
- I have attended and presented a number of research publications in the following conferences:
  - The 9<sup>th</sup> International Conference on Information Communication and Management (ICICM'19), Prague, Czech Republic, August 2019.
  - International Arab Conference on Information Technology (ACIT'2016), December 2016, Morocco.
  - The 7th International Conference on Information and Communication Systems (ICICS), April 2016, Irbid, Jordan.
  - The 3rd International Conference on Information and Computer Networks (ICICN), March 2015, Florence, Italy.
  - The 5th International Conference on Information and Communication Systems (ICICS), April 2014, Irbid, Jordan.
  - The 7th International Conference on Information Technology and Applications (ICITA), November 2011, Sydney, Australia.
  - IAPR 19th International Conference on Pattern Recognition (ICPR), Tampa, Florida, USA, 2008.
  - IEEE International Conference on Image Processing (ICIP), San Diego, California, USA, 2008.
  - WSEAS International Conference on Multimedia Systems and Signal Processing (MUSP), Hangzhou, China, 2006.
  - Knowledge-Based & Intelligent Information and Engineering Systems (KES), Melbourne, Australia, 2005.
- I have also attended the following conferences and workshops:
  - IAPR Digital Image computing Techniques and Application (DICTA), Melbourne, Australia, 2009.
  - Multimedia Signal Processing workshop, organized by National ICT Australia, UNSW, Sydney, Australia, 2007.
  - Advanced Video and Signal based Surveillance (AVSS), Sydney, Australia, 2006.

## University, Faculty and Department Committees

- Head of the graduate studies committee at faculty.
- Head of the exams committee at faculty.
- Head of the graduation projects committee at faculty.
- Head of computer labs committee at faculty.
- Head of training committee at faculty.
- Head of the study plans committee at department.
  
- Member of the graduate studies council at university.
- Member of the faculty council.
- Member of the hiring and promotion committee at faculty.
- Member of the study plans committee at faculty.
- Member of the students' investigation committee at faculty.
- Member the class schedule committee at faculty.
- Member the international accreditation committee at faculty.
- Member of the scientific research committee at department.