

Abayomi AJOFOYINBO, Ph.D

Department of Engineering
Texas Southern University,
3100 Cleburne Street, Houston, Texas 77004
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EDUCATION

Ph.D., Systems Engineering (embedded systems and control). -- 2003-2008.
M.S., Engineering Analysis -- 1996-1998. *Passed with Distinction.*

UNIVERSITY SCHOLARSHIP

Gulf Oil Company of Nigeria (now Chevron) University Scholarship: 1987 –1990.

RESEARCH AREAS

- (a) Embedded systems and control engineering
- (b) Wireless communications and wireless sensor networks
- (c) Artificial Intelligence
- (d) Software engineering

EMPLOYMENT HISTORY

1. **Visiting Assistant Professor** : September 2014 – Present.

Department of Engineering
Texas Southern University,
Houston, Texas

Major responsibilities: Teaching and Research

Courses taught:

- (a) ECE 430 -- Applied Electromagnetics
- (b) ECE 436 -- Artificial Intelligence
- (c) ECE 330 – Engineering Mathematical Analysis
- (d) ECE 130 – Programming for Engineering Applications
- (e) CMET 436 – Applied Microprocessor Software
- (f) ELET 442 – Special Projects
- (g) ELET 431 – Microprocessor Interfacing (Lecture)
- (h) ELET 413 – Microprocessor Interfacing (Laboratory)
- (i) CMET 435 – Advanced Microcomputer Networks (Lecture)
- (j) CMET 415 – Advanced Microcomputer Networks (Laboratory)
- (k) ELET 215 – Digital Systems
- (l) ELET 130 – Introduction to Structured Programming with C++

2. **Postdoctoral Fellow** : September 2013 – August 2014.

NSF-CREST Centre for Research on Complex Networks
Texas Southern University, Houston, Texas.

Major responsibilities: Research on wireless communications and wireless sensor networks

3. **Senior Lecturer** : October 2012 – August 2013
 Department of Systems Engineering,
 Faculty of Engineering
 University of Lagos, Nigeria.

Major responsibilities: Teaching and research
4. **Lecturer I** : November 2008 –October 2012.
 Department of Systems Engineering,
 Faculty of Engineering
 University of Lagos, Nigeria.

Major responsibilities: Teaching and research
5. **Lecturer II** : July 2004 – November2008.
 Department of Systems Engineering,
 Faculty of Engineering
 University of Lagos, Nigeria.

Major responsibilities: Teaching and research
6. **Manager, Technology Consulting Group** : April 2001 – June 2004
 ROE Limited, Nigeria
7. **Manager/Project Coordinator** : September 1999 – March 2001
 Standard Petrochemical Industries Limited (SPIL), Lagos, Nigeria
 [Joint Venture Operator for: Nigerian National Petroleum Corporation (Nigeria), Ferrostaal AG (Germany), Lurgi AG (Germany), ABB Lummus (USA) and SPIL (Nigeria)]
Joint Venture Project: Methanol Project
8. **Systems Engineer** : October 1991 – June 1995
 Maintenance Department
 Shell Petroleum Development Company Limited (SPDC),
 Warri, Bendel State (now Delta State), Nigeria
9. **National Service** : October 1990 – September 1991
 Shell Petroleum Development Company Limited (SPDC), Western Division
 Warri, Bendel State (now Delta State), Nigeria

PUBLICATIONS

- 1) David O. Olowokere and Abayomi M. Ajofoyinbo, “Energy-efficient MAC Protocol using directional antennas in IEEE 802.11-based wireless sensor networks”, *International Journal of Electronics Communication and Computer Engineering*, 2015, vol. 6, no. 5, pp. 548-557.
- 2) Ajofoyinbo A.M. and Li W.W. (2015). “Directional antennas MAC protocol for energy-efficient wireless sensor networks with mobile sink”. *International Journal of Communications Systems*, DOI.10.1002/dac.3007.

- 3) Ajofoyinbo A.M. and Olowokere D.O. (2015). “Markov decision process –based structural health monitoring model for civil infrastructure systems using energy-efficient wireless smart sensor networks” . *International Journal of Modern Engineering*, Spring/Summer 2015, vol. 15, no. 2, pp. 45-56.
- 4) Ajofoyinbo A.M and Olowokere D.O. (2015). “Fuzzy control model for structural health monitoring of civil infrastructure systems”. *Journal of Control Science and Engineering*, vol. 3, no. 1, pp. 9-20.
- 5) Olowokere D.O. and Ajofoyinbo A.M. (2015). “A framework for integrating intelligent sensors measurement data into engineering education”. 122nd Annual Conference of the *American Society for Engineering Education (ASEE)*, Seattle WA, June 14-17, 2015.
- 6) Ajofoyinbo A. and Olowokere D.O. (2014). “Health monitoring and control of civil infrastructures using wireless smart sensor networks”. *Bulletin of Electrical Engineering and Informatics*, vol. 3, issue 3, pp. 201-212.
- 7) Ajofoyinbo A.M. and Olowokere D.O. (2014). “Discounted semi-Markov decision process based structural health monitoring model for civil infrastructure systems using wireless smart sensor networks”. *European Journal of Scientific Research*, vol. 121, issue 4, pp. 347-362.
- 8) Ajofoyinbo A.M. (2013); “On Ultra Extended Cyclic Prefix in Orthogonal Frequency Division Multiplexing (OFDM) Systems: The Case of LTE Downlink”; *Journal of Communications and Networks*; vol. 5; pp. 280 - 287.
- 9) Ajofoyinbo A.M. (2013); “Energy efficient Packet-Duration-Value based MAC Protocol for wireless sensor networks”; *Journal of Wireless Sensor Networks*; vol. 5, no. 10, pp. 194 – 202.
- 10) Ajofoyinbo A.M. and Orolu K. (2012); “Optimal allocation of radio resource in Cellular LTE downlink based on truncated dynamic programming under uncertainty”; *Journal of Communications, Network and Systems Sciences*; vol. 5, no. 2, pp. 111-120.
- 11) Olunloyo V.O.S., Ajofoyinbo A.M. and Oye Ibidapo-Obe (2011); “On Development of Fuzzy Controller: The case of Gaussian and triangular membership functions”, *Journal of Signal and Information Processing*; vol. 2, pp. 257-265.
- 12) Ajofoyinbo A.M. and Orolu K. (2011); “An adaptive multi-user dynamic scheduling technique for multi-class traffic in Long-Term Evolution (LTE) cellular downlink”, *Proceedings of the International Conference on Innovations in Engineering and Technology (IET 2011)*, University of Lagos, Nigeria. August 8-10, 2011; pp. 229-245.
- 13) Ajofoyinbo A. M. and Orolu K. (2011); “A dynamic programming based technique for optimal allocation of radio resource in multi-user cellular Long-Term Evolution (LTE) downlink”, *Proceedings of the 10th World Scientific and Engineering Academy and Society (WSEAS) International Conference on Telecommunications and Informatics (TELE-INFO 2011)*, Lanzarote, Canary Islands, Spain, May 27-29, 2011, pp. 107-113.
- 14) Olunloyo V.O.S. and Ajofoyinbo A.M. (2010); “On the systematic computation of union and intersection of triangular Fuzzy sets”, *European Journal of Scientific Research*; vol. 41, no. 1, pp. 135 – 149.
- 15) Olunloyo V.O.S. and Ajofoyinbo A.M. (2010); “A new admission control algorithm for performance improvement in General Packet Radio Service (GPRS) network”; *European Journal of Scientific Research*; vol. 41, No. 1, pp. 122-134.
- 16) Olunloyo V.O.S and Ajofoyinbo A.M. (2010); “Factors influencing reliability of interconnected industrial systems: The case of irregular electrical power supply”; *University of Lagos Journal of Engineering Research*; vol. 15, no. 1, pp. 1-10.
- 17) Olunloyo V.O.S and Ajofoyinbo A.M. (2009); “A model for real time leakage detection in pipelines: A case of an integrated Global Positioning System (GPS) Receiver”; *Proceedings of*

- the 3rd North Atlantic University Union (NAUN) and World Scientific and Engineering Academy and Society (WSEAS) International Conference on Circuits, Systems and Signals (CSS'09)*, Athens, Greece, December 29-31, 2009. pp. 216-221.
- 18) Olunloyo V.O.S. and Ajofoyinbo A.M. (2009); "Performance improvement in General Packet Radio Service (GPRS) network based on priority queue oriented admission control". *Proceedings of the 8th World Scientific and Engineering Academy and Society (WSEAS) International Conference on Telecommunications and Informatics (TELE-INFO '09)*, Istanbul, Turkey, May 30 – June 1, 2009. pp. 179-186.
- 19) Olunloyo V.O.S., Ajofoyinbo A.M. and Ibidapo-Obe O. (2009); "Design and implementation of embedded Fuzzy controllers based on Fourier computation of membership functions"; *Proceedings of the 8th World Scientific and Engineering Academy and Society (WSEAS) International Conference on Electronics, Hardware, Wireless and Optical Communications*, University of Cambridge, U.K.; pp. 133-142. **(Best Paper of the Conference)**.
- 20) Olunloyo V.O.S., Ajofoyinbo A.M. and Badiru A. B. (2008); "An alternate approach for computing the union and intersection of Fuzzy sets: A basis for design of robust Fuzzy controllers"; *Proceedings of the 7th World Scientific and Engineering Academy and Society (WSEAS) International Conference on Artificial Intelligence, Knowledge Engineering and Data Bases (AIKED' 08)*, University of Cambridge, U.K.; pp. 301-308. **(Best Student Paper)**.
- 21) Olunloyo V.O.S., Ajofoyinbo A.M. and Femi Agboola (2007); "Irregular electrical power supply as a major risk factor in an emerging industrial economy". *Proceedings of the 7th International Conference on Power Systems Operation and Planning (7th ICPSOP)*; January 22-25, 2007. Cape Town, South Africa. pp. 203-212.
- 22) Olunloyo V.O.S. and Ajofoyinbo A. M. (2007). "Intelligent processing in cultural context: The African perspective". *Proceedings of the 6th International Conference on Intelligent Processing and Manufacturing of Materials (IPMM '07)*, Salerno, Italy. CD-ROM.
- 23) Olunloyo V.O.S. and Ajofoyinbo A.M. (2006). "Fuzzy-stochastic maintenance model: economic health index as a measure of engineering performance". *Special Issue of the Communication of Dependability and Quality Management: An International Journal*; vol. 9, no. 1, pp. 30-37.
- 24) Olunloyo V.O.S. and Ajofoyinbo A.M. (2005). "A new approach for treating Fuzzy sets' intersection and union: A basis for design of intelligent machines"; *Proceedings of the 5th International Conference on Intelligent Processing and Manufacturing of Materials (IPMM'05)*. July 19-23, California, USA, July 19-23, 2005. CD-ROM.
- 25) Olunloyo V.O.S and Ajofoyinbo A. M. (2005). "Fuzzy-stochastic maintenance model: A tool for maintenance optimization". *Proceedings of the International Conference on Stochastic Models in Reliability, Safety, Security and Logistics*. Beer Sheva, Israel, Feb 15-17; pp. 266-271.
- 26) Olunloyo V.O.S., Ajofoyinbo A.M. and Badiru A.B. (2004). "NeuroFuzzy mathematical model for monitoring flow parameters of Natural Gas". *Applied Mathematics and Computation*; Elsevier Science, vol. 149, pp. 747-770.

SOFTWARE ENGINEERING

I have expertise in the following programming languages:

- (a) C/C++ Programming Language
- (b) Java Programming Language
- (c) C-Sharp Programming Language

- (d) Assembly Language
- (e) Ladder Language / Statement List
- (f) MATLAB

AFFILIATION WITH PROFESSIONAL BODIES

- (a) Institute of Electrical and Electronic Engineers, New York, USA
- (b) The Nigerian Society of Engineers
- (c) Computer Professional Registration Council of Nigeria
- (d) The Nigerian Economic Society

PROFESSIONAL TRAINING

Courses attended

- | | - | <u>Country</u> |
|--|---|-----------------------|
| (a) Entrust Training & Certification (Entrust Identity Guard) | - | UK |
| (b) Robust Design by Reliability, Fiability and Fatigue | - | France |
| (c) Riverbed Technology Technical Training
(Bandwidth optimisation) | - | UK |
| (d) SUN Java Enterprise Systems (JES) Identity Management | - | Czech Republic |

JOURNAL REVIEW

Reviewer for:

- (a) EURASIP Journal of wireless communications and networking.
- (b) Journal of Communications and Networks