




Curriculum Vitae of a faculty member

1. Personal information

Name	Basil Shukr Mahmood	
Academic Degree	Professor	
Job Title	Professor in Computer Engineering Department/ University of Mosul.	
General Major	Electronics and Communications	
Mobil No.	009647701618112	
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Website		

2. Qualifications:

- 1) B.Sc. in Electrical Engineering/ Electronics and Communication, grade very good from University of Mosul/Iraq, 1976.
- 2) Diploma in Electrical Engineering/ Electronics and Communication, grade very good from University of Mosul/Iraq, 1977.
- 3) M.Sc. in Electrical Engineering/ Electronics and Communication, grade excellent from University of Mosul/Iraq, 1979.
M.Sc. Thesis Title: Traffic Actuated Control.
- 4) Ph.D. in Electrical Engineering/ Electronics (Computer Hardware) , grade excellent from University of Mosul/Iraq, 1996.
Ph.D. Thesis Title: Processor Design for Fractal Signals.

3. Experiences

Vocations:

- 1) Assistant Lecturer at Computer Center/ University of Mosul from 13/3/1983-20/2/1988.
- 2) Lecturer at Computer Center/ University of Mosul from 20/2/1988-27/11/1988.
- 3) Lecturer at Electrical Engineering Department / University of Mosul from 27/11/1988-13/1/1997.
- 4) Assistant Professor at Electrical Engineering Department / University of Mosul from 13/1/1997-23/9/1998.
- 5) Assistant Professor at Computer Engineering Department / University of Mosul for 23/9/1998-10/10/2005.
- 6) Assistant Professor at Mechatronics Engineering Department / University of Mosul from 1/10/2005-21/10/2006.
- 7) Assistant Professor at Electronics Engineering College / University of Mosul from 22/10/2006-19/6/2010.
- 8) Professor at Electronics Engineering College/ University of Mosul from 20/6/2010-20/10/2012.
- 9) Professor at university of Ninevah from 21/10/2012-23/2/2014
- 10) Professor at university of Mosul from 24/2/2014 till now.

Positions:

- 1) Head of Computer Engineering Department / University of Mosul form 13/9/1998-28/7/2005.
- 2) Head of Mechatronics Engineering Department / University of Mosul form 11/10/2005-21/10/2006.
- 3) Dean of Electronics Engineering College / University of Mosul from 22/10/2006 -20/10/2012.
- 4) President of University of Ninevah from 21/10/2012-23/2/2014

4. Researches & Scientific activities

Published Papers:

- 1- Design of Microcontroller based fuzzy controller , third international conference on signals ,systems & devices , 2005 Sousse-Tunisia . pp 1-5
- 2- Time and Space measurement Tools for Real-Time Kernel RTDM , the 2nd. International Conference on Information Technology , ICIT 2005 , Jordan . pp 449-453
- 3- Fast Backpropagation Neural Network for VQ-Image compression , Al- Rafidian Journal of Computer Science and Mathematics , vol. 1 ,No. 1 ,2004 . pp 96-118
- 4- Neural Network Feature Extraction for the Tasks of Visual Recognition , Al-Rafidain Engineering Journal , vol. 13 ,No. 4 ,2005 .
- 5- An ANN – based automatic recognition algorithm for Analog and Digital modulated signals , proceedings of 6th. Jodanian international Electrical and Electronics Engineering conference , JIEEEEC 2006 Amman – Jordan . pp 165-170
- 6- An ANN-based automatic recognition algorithm for analog modulated signal , third international conference on system and signals & devices , 2005- Sousse , Tunisia .
- 7- Design, Simulation and Testing of A Simimd Machine, IJCCCE magazine, No.2, Vol3, 2002, PP 227- 249
- 8- Neural Network features extraction from time-frequency analysis for speech Recognition, Rafidain journal of Engineering, Vol.8, No.3 ,2000
- 9- Performance measurement of VSM machine , Tikrite scientific journal, Vol.8, No.4,2001 pp 21-30
- 10- High performance Image Recognition system Based Neural Networks, proceeding of the first international conference on tele-computing and information technology/ICTIT 2004 . pp 23-28
- 11-Utilizing expanded and extended memory for Data storage in real mode, Rafidain Journal of science, Vol. 10, No.1, PP 37-43,1999.
- 12-VSM: Vector SIMD Machine, Rafidain Journal of Science, Vol. 11, No.2, pp36-49, 2000.
- 13-Performance Improvement of VQ Based Neural Networks, Rafidain Journal of Engineering, Vol. 7, No.2, 1999. pp 49-60
- 14- Performance evaluation of industrial Ethernet in a vehicle automation system , IPEC2006 conference , Jordan 2006. pp 693-703.
- 15-Simulation system for microprogramming ,Symposium on Computers and Information ,Alyarmook University ,Irbid –Jordan 24-26 March 1985 .
- 16- Drawing Arabic Writings on Computer plotter , Symposium on Computers and Information ,Alyarmook University ,Irbid –Jordan 24-26 March 1985 .
- 17- Microprocessor based Control of winding machine , Symposium on Industrial Applications of Personal Computers and Microcomputers, 16-18 DEC. 1986 , Scientific Research Council ,Baghdad ,PP104-112.
- 18- Using Computer line printer for Displaying Gray levels of Light , Computer Magazine ,National Computer Center ,Baghdad , No. 3, 1985 .

- 19- Three Scientific Reports presented to the Symposiums of Science and Education of Mosul University .
- 20-Microprocessor Based Speed Control and Power Factor Improvement of a Three Phase Induction Motor, *Jor. Of Electron & Comp. Res*, Vol. 3(1), April 1989, PP. 15-31 .
- 21-Design of a Pipelined Graphics Processor, *Rafidain Jour. Sci*, Vol. 7, No. 1, PP. 50-68, 1996.
- 22-Code Generation and Optimization Techniques in HIMIC-85 Language, *Zanko Jour*. Vol. 2 No. 2, PP. 273-285, Nov. 1988.
- 23-Programs Hiding : A Method for DOS Copy Protection, Scientific Conference 1993/ Computer National Center in Iraq-Baghdad,1993, pp 1-14
- 24- A Didactic Systems for Simulation of a Micro Programmed Computer, *Journal of Electronic and Computer Research*, Baghdad, Vol. 2, No. 2, Oct. 1988, PP. 159-182.
- 25- Design and implementation of Real-Time executive (RTDM) for multi-task system , *IJCCCE journal* ,University of Technology ,Iraq ,Volume 5 ,No.2 , Feb. 2005 PP 52-71 .
- 26- FPGA Design Implementation of a Reconfigurable Architecture for Convolutional Neural Network, The 6th International Engineering Conference IPEC2006 , September 19-21, 2006. pp 614-623.
- 27- Measurement and Performance Analysis of Industrial Ethernet, *IJCCCE journal*, University of Technology ,Iraq, Vol.7, No.1, 2007,pp1-10.
- 28- Development and Evaluation of two Memory Architectures for the hardware Version of CNN face recognition , *Al-Rafdain Engineering Journal* ,vol. 16, No.3 , Aug. 2008 ,PP 11-24 .
- 29- Hardware and Software modifications on the Neocognitron and its binary implementation on FPGA. ACIT 2007, The international Al Arab conference on Information Technology, 26-28, 2007, Syria . pp 309-317
- 30- Enhancement of Industrial Ethernet Performance using Multicasting/VLAN techniques. International conference on information & communication technologies, From Theory to Applications (ICTTA 08) April 2008, Damascus , Syria
- 31- Developing the Design of the Etherchannel switch for the Enhancement of the Quality of Service (QoS) Performance , *Al-Rafdain Engineering Journal* ,vol. 17 , No. 3 , June 2009 , PP60-71 .
- 32- Reconfigurable Self Organizing Neural Network Design and its FPGA Implementation , *Al-Rafdain Engineering Journal* ,vol. 17 , No. 3 , June 2009 , pp99-115 .
- 33- Design general fuzzy controller implemented in VHDL and synthesized using FPGA, 7th International Industrial Simulation Conference ICS' 2009, June 1-3,Loughborough, UK, 2009, pp. 262-268 .
- 34- Real Time Image Segmentation for Face Detection Based on Fuzzy Logic .*Nahrain University* , College of Engineering (NUCEJ) vol. 1 , No. 2 ,2008 , PP 278-287 .

- 35- Analysis and Design of a Guaranteed Real Time Performance Enhanced Industrial Ethernet , International Arab Journal of e-Technology (IAJET) vol. 2, No. 1, Jan 2011, Arab Open University , Amman-Jordan .
- 36- A reconfigurable interconnected filter for Face recognition based on Convolution Neural Network . 2009 IEEE Xplore , IEEE Conference on Design and Test Workshop (IDT) , 2009 , 4th. International conference , PP1-9 .
- 37- FPGA Implementation of Elementary Function Evaluation Unit using CORDIC and Look-up tables , Al-Rafidian Engineering Journal , vol.(19), No. (2), April 2011, University of Mosul , Iraq .
- 38- Fuzzy modeling of dynamic electronic devices, 12th middle eastern simulation multi_conference MESM' 2011, November 14-16 2011, Arab Open University, Amman, Jordan, PP23-30.
- 39- Design and Implementation of SIMD vector processor on FPGA, ISIICT 2011, NOV. 2011, Philadelphia university, Amman, Jordan.
- 40- Architectural Design of Random Number Generators and Their Hardware Implementations, Al-Rafidain Engineering, vol.22, No.2, March 2014, pp50-59.
- 41- Parallel processing implementation on a Distributed system, International Journal of Engineering and Innovative Technology (IJEIT), vol. 6, Issue 2, August 2016, pp7-11.
- 42- Neural Network Design and Implementation For Time Series Signal Processing, Journal of Babylon University/Engineering Sciences/ No.(3)/ Vol.(21): 2013,pp1028-1036.
- 43- Implementation Strategy for Real-time Kernel (RTDM) , Int. J. Reasoning based intelligent systems, No.4, Vol.4, 2012, pp 197-203 .
- 44- Processing Mel Speech Power Spectrum For Speech Restoration, International Journal of Enhanced Research in Science, Technology, & Engineering, Vol.(5), Issue(9), Sept. 2016, pp39-45.
- 45- A Novel Way to Design and Implement Statistical Operations Based On FPGA, International Journal of Computer Applications (0975 – 8887) Volume 167 – No.9, June 2017,pp 8-11 .
- 46- Time Sharing based Parallel Implementation of CNN on Low Cost FPGA, IEEE International conference on Advaced Science and Engineering ICOASE 2018, Kurdistan region Duhoke-Zahko/Iraq, Oct.2018, pp 54-59.
- 47- Processing Mel Speech Power Spectrum For Speech Restoration, International Journal of Enhanced Research in Science, Technology, & Engineering, Vol.(5), Issue(9), Sept. 2016, pp39-45.
- 48- Time Sharing based Parallel Implementation of CNN on Low Cost FPGA, IEEE International conference on Advaced Science and Engineering ICOASE2018, Kurdistan region Duhoke-Zahko/Iraq, Oct.2018, pp 54-59.
- 49- Time Sharing based Parallel Implementation of CNN on Low Cost FPGA, IEEE International conference on Advaced Science and Engineering ICOASE2018, Kurdistan region Duhoke-Zahko/Iraq, Oct.2018, pp 54-59
- 50- A prototype for Temperature Sensation System for Arm Amputee Handicap, Al-

Rafidain Engineering Journal (AREJ), vol. 25, No.1, June 2020, pp 12-16 .

51- A pressure Sensation System Prototype for Upper Limb Amputation, International Journal of Advances in Computer and Electronics Engineering(IJACEE), vol. 6, Issue 1, Feb. 2020, pp. 1-5 .

52- Efficient Space-Filling One Dimensional Scan Generator, appear vol.15, Issue 6, December 2020.

Published Books:

- 1- Computer programming 1986 (in Arabic),University of Mosul Publishing (Dar Ibn Alatheer).
- 2-Programming in BASIC 1988,2000 (in Arabic),University of Mosul Publishing (Dar Ibn Alatheer).
- 3-New Approaches to Characterization and Recognition of Faces (chapter 7), 2011, INTECH.
- 4-Modern Industrial Networks;Technology,Architecture & Performance Evaluation, LAMBERT Academic Publishing, 2013

5. Scientific Conferences

	Conference name	Place	Date
1-	International conference on advanced science and engineering ICOASE2018	University of Zakho/ Iraq	9-11/10/2018
2-	2 nd . Scientific Iraqi conference for electrical and electronic engineering	University of Mosul/Iraq	19-21/11/2013
3-	2 nd . Conference for computers and IT	University of Anbar/Iraq CCIT-12	4-5/4/2012
4-	ISIICT-11 conference	Philadelphia university/Jordan	29/11-1/12/2011
5-	12th middle eastern simulation multi_conference MESM' 2011	Arab Open University, Amman, Jordan	14-16/11/2011
6-	IEEE International conference on Advaced Science and Engineering ICOASE 2018	Kurdstan region Duhoke-Zahko/Iraq	Oct.2018
7-	IEEE Conference on Design and Test Workshop (IDT) , 2009 , 4 th . International conference	Riyadh/Arabia Suadi	2009/11/17-14

8-	7 th International Industrial Simulation Conference ICS' 2009	Loughborough, UK	June 1-3,, 2009
9-	International conference on information & communication technologies, From Theory to Applications (ICTTA 08)	Damascus, Syria	April 2008
10-	ACIT 2007, The international Al Arab conference on Information Technology.	Damascus, Syria	26-28, 2007
11-	The 6 th International Engineering Conference IPEC2006 ,	Amman/Jordan	September 19-21, 2006.
12-	Scientific Conference 1993/ Computer National Center in Iraq	Baghdad /Iraq	1993
13-	third international conference on signals ,systems & devices , 2005	Sousse-Tunisia	21-24/3/2005
14-	the 2 nd . International Conference on Information Technology , ICIT 2005	Amman/jordan	14-17/12/2005
15-	6 th . Jodanian international Electrical and Electronics Engineering conference , JIEEEEC 2006	Amman – Jordan	14-16/3/2006
16-	the first international conference on tele-computing and information technology/ICTIT 2004	Amman/Jordan	22-24/9/2004
17-	Symposium on Industrial Applications of Personal Computers and Microcomputers, Scientific Research Council	Baghdad/Iraq	16-18 DEC. 1986
18-	1 st . Scientific Iraqi conference for electrical and electronic engineering	University of Mosul/Iraq	19/4/2000

6. Training courses for faculty members .

	Course name	Place	Date
1-	Developing academic staff abilities	Siemens Digital Devices	28/8/2012
2-	Quality accreditation course	ministry of education and UNESCO	2009
3-	CP/M operating system	NCR company	19/1/1985
4-	UNIX operating system	NCR company	23/9/1985
5-	Microprocessor Development System	Philipps company	17/6/1986
6-	Generic CAD	National Computer Center	8/7/1989
7-	e-learning for laboratories development	LABVOLT company	30/1/2006
8-	Teaching methods development	University of Mosul	1988
9-	Siemens Digital Devices	Siemens company	1/7/1975

7. Master's and Doctoral theses which he supervised

M.Sc. Dissertations Supervisions:

1. Generation and Displaying of Fractals and their applications in satellite Imagery. MAR 1990
2. Design of a Micro-programmed Pipelined Processor with Cache Memory and its performance evaluation. MAR 1990
3. Disk Copy Protection and Programs Hiding. MAR 1992
4. Fractal Vector Quantization of Images. SEP 1997
5. Image Processing for VQ on Neural Networks. SEP 1997
6. Parallel Processor Emulator . SEP 1997
7. Processing of non-DOS formatted disk. NOV 1998
8. Speech Recognition by Neural Network. DEC 1998
9. Back Propagation Neural Network for Image Compression and Enhancement. OCT 1999
10. Face recognition using Neocognitron Neural Network ,JUL 2000 .
11. Multimedia video processing. JUN 2000
12. Multimedia sound processing. JUN 2000
13. Computerized spectrum analyzer design. JUN 2003
14. Photos and Image Texture Analysis using Fractal Segmentation . JAN 2003

15. Design and Implementation of a Microcontroller Based Fuzzy Controller System .DEC 2004
16. Design General Fuzzy controller ,Implementation in VHDL and synthesized using FPGA . DEC 2008.
17. Design and testing a reconfigurable calculation unit using FPGA. NOV 2008.
18. Design of a Pipelined Math Processor and it's implementation using FPGA . OCT 2009 .
- 19.Design and implementation of SIMD Vector processor on FPGA, DEC 2010.
- 20.Design and implementation of a processor for statistics on FPGA, DEC 2013.
- 21.Fuzzy modeling of electronic devices, Dec 2011.
22. ANN simulation for electronic devices. Mar 2012.
23. Neuro-Fuzzy based processing of speech restoration and its applications, JAN.2017.
24. Implementation of Multiprocessor Network Topology on a Distributed Systems, NOV.2016.
25. Hybrid Bionic Intellectual Artificial Hand for Handicapped, May2020.

Ph.D. Thesis Supervisions:

1. Joint Time-Frequency Analysis and its Applications for non-Stationary Signals. JAN 2001.
2. Image compression Using Genetic Algorithm and Vector Quantization . APR 2002.
3. Design and Implementation of Real-Time Software for Multitask System . JAN 2004.
4. DSP Architecture for wavelet Transform. SEP 2003.
5. ANN Recognition for RF Reconnaissance System . JUN 2005.
6. Designing a Client\Server Model for Real Time Data on the Internet . FEB 2005.
7. An Investigation for steganography in moving pictures. MAR 2006.
8. Enhancement of Industrial Ethernet and its Performance Analysis . JAN 2006.
9. Software and Hardware Design of Image Neuorecognizer and its FPGA Implementation . NOV 2006.
10. Architectural Design of Real-Time Wavelet for Image Compression using reconfigurable Hardware . FEB 2006.
11. Hardware Design and Implementation of Kohonen Neurons. JAN 2007.

Design of a Fuzzy operations processor and its Implementation on FPGA.

8. Theses which he discussed

Hundreds of Ph.D. and M.Sc. theses.

Teaching Experience:

1- Teaching the following undergraduate subjects:

- Programming languages in C, C++, Pascal, Fortran, BASIC.
- Data Structures.
- Logic design and Computer organization.
- Microprocessors and Microcomputers.
- Real time systems.
- Digital Systems Design.
- Computer Graphics.
- Operating Systems.
- Microprocessors Applications.
- O.S. Applications.
- Computer Architecture.

2- Teaching the following postgraduate courses (For M.Sc. and Ph.D.):

- Numerical Analysis and Computation.
- Advanced Microprocessing.
- O.S. Applications.
- Parallel Processing and Neural Networks.
- Image Processing.
- Software Engineering.
- Operating Systems.
- Numerical Optimization.
- Computer Graphics.
- Computer Buses.
- Distributed systems
- Artificial Intelligence

Editorial Board

- 1- The International Journal of Computing and Network Technology (IJCNT) is a peer-reviewed International Journal that publishes technical papers describing recent research and development work in all aspects of computer and Network Technology. University of Bahrain. <http://journals.uob.edu.bh/IJCNT/editorial-board>.
- 2- Al-Rafidian journal for Computer Science and Mathematics , University of Mosul, Iraq.

3- Journal of Al-Rafidian Engineering, College of Engineering, University of Mosul.