

Curriculum Vita

Name: Prof.Dr. Ahmed AK. Tahir

Date and Place of Birth: 1st-Sep.-1958, Iraq

Nationality: Iraqi

Address: University of Duhok, College of Science,
Department of Computer Science,
Duhok City, Kurdistan Region of Iraq.

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Qualifications:

- 1) B.Sc (with first class honors) in Physics, College of Science/ University of Mosul, Iraq in 1981.
- 2) Ph.D in Digital Image Processing from Imperial College of Science, Technology and Medicine, University of London, 1991.
- 3) Diploma Imperial College (DIC), 1991

Current Position: Professor (since 2012) at the University of Duhok/ College of Science / Computer Science Physics Department.

Affiliations:

- 1) Professor at the Department of Computer Science / College of Science / University of Duhok, Jun-2021+
- 2) Professor at Physics department / College of Science / University of Duhok, Oct-2018 to Jun-2021
- 3) Head of the computer science department since Dec-2011 to Oct-2018
- 4) Assistant Professor at Physics Dept/ College of Science/ University of Duhok, 2004-2011.

- 5) Assistant Professor and Director of the High Institute of Remote Sensing, 2003-2004.
- 6) Head of the digital Image Processing Department at the High Institute of Remote Sensing, 2002-2003.
- 7) Assistant Professor at University of Mosul/ Computer Science Department, 2001-2002.
- 8) Assistant Professor and Head of the digital Image Processing Department at Remote Sensing Centre, 1995-2001.
- 9) Lecturer at the University of Mosul/College of Education/Physics Department for the period 1994-1995.
- 10) Lecturer at the University of Mosul/College of Agriculture/ Department of Basic Science for the period 1992-1994.
- 11) Joined PHD study at Imperial College of Science Technology and Medicine/University of London, 1986-1991.
- 12) Worked in Iraqi Scientific Council from 1982-1986 as a group member involved in the National Iraqi Observatory.

Training Courses and Workshops Taken:

- 1) Three Day International Workshop on Time Series Analysis in R-programming organized by Dept. of Research & Publications, A2Z EduLearningHub LLP on 25th, 26th & 27th July 2022.
- 2) One year training Course on computer Hardware and Software in Digital Equipment Corporation Institute (DEC) in West Germany 1983-1984.
- 3) One month training Course on the Control Panel of the Optical Telescope in 1984 at Seize Company in West Germany, NOV.-1984.

Teaching Experience/ Undergraduate:

- 1) Teaching Digital Image Processing BSC students of Computer Science.
- 2) Teaching Computer Graphics to the 3rd year students at computer science department.
- 3) Teaching Numerical Analysis to the 3rd year students of Computer Science and Physics.
- 4) Teaching programming languages (Fortran77, Fortran90, Basic, C++) to the first- and second-year students.
- 5) Teaching Wave Motion to the second and third year students at Physics department.
- 6) Teaching Analytical Mechanics to the third and third year students at Physics department.
- 7) Teaching Physics of Remote Sensing to the 3rd and 4th year students as an optional course to the third and fourth year students at Physics Department.
- 8) Teaching Calculus to the first-year student at Physics department.
- 9) Teaching Advance Calculus to the second-year student at Physics department.
- 10) Teaching Differential Equations to the second-year student at Physics department.
- 11) Teaching Numerical Analysis to the 2nd-year students of Computer Science and Physics.

Teaching Experience/ Postgraduate:

- 1) Teaching Digital Image Processing and Pattern Recognition Courses to MSC and PHD students, Computer Science Department and Institute of Remote Sensing Institute / University of Mosul.

- 2) Teaching Biometric measurement recognition to MSC students, computer science department.
- 3) Teaching Artificial Neural Network to PHD students of Computer Science and Physics Departments.
- 4) Teaching Special Topics in Digital Image Processing to MSC students of Computer Science.
- 5) Teaching Remote Sensing course to MSC and PHD students at Remote Sensing Institute / University of Mosul.
- 6) Teaching Remote Sensing course to MSC and PHD students of Physics Department/ University of Duhok.
- 7) Teaching Advanced Digital Image Processing to MSC students of Computer Science.
- 8) Teaching Machine Learning to PHD students of Computer Science.

Supervision Activities:

1. Supervision MSC Thesis

| No | Thesis Title | Year | University/College | Student Name |
|-----------|---|-------------|---|---------------------------|
| 1 | Improving The Performance Of Finger-Vein Recognition Using Modified Methods Of Preprocessing And Feature Extraction | 2019 | University of Duhok/ College of Science/ Computer Science | Ahmed A. Mustafa |
| 2 | Image Classification Using Convolutional Neural Networks (CNNs) | 2019 | University of Duhok/ College of Science/ Computer Science | Arman I. Mohammed |
| 3 | An Iris recognition Approach for Person Identification and Verification. | 2016 | University of Duhok/ College of Science/ Computer Science | Akar Abdulsalam Salih |
| 4 | A Low Cost Eye Tracking System For Computer Operation by Disabled People. | 2016 | University of Duhok/ College of Science/ Computer Science | Sarkar Abdulsalam Salih |
| 5 | Improving Spatial Resolution of Satellite Images Through Image Fusion Techniques. | 2008 | University of Duhok/ College of Education/ Computer Science Dept. | Shamal M.Ameen Taha |
| 6 | Investigation and Development of Iris Localization Techniques. | 2008 | University of Duhok/ College of Education/ Computer Science Dept. | Ahmed Ismail Bindian |
| 7 | Automatic Road Extraction From IKONAS Image. | 2008 | University of Duhok/ College of Education/ | Jiyan A. Younis Al-Butany |

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| | | | Computer Science Dept. | |
| 8 | Identification and Classification of Clouds through Satellite Images Using Interpretation and Integrated Classification Methods. | 2006 | University of Duhok/ College of Education/ Physics Dept. | Zobaida Shaheen Saif-Aldin |
| 9 | Auto Recognition Of Lineaments & Drainage System Using Satellite Images. | 2005 | University of Mosul/ College of Mathematics and Computer Science/ Computer Science Dept. | Alhan Anwer Younes |
| 10 | Modeling of The Winter Rainful In Mountain Destrict Of Iraq Using Remote Sensing Data. | 2005 | University of Tekrit/ College of Education/ Department of Geography | Ahmed Adbulghafur Khattab |
| 11 | An Automatic Software System For Earth Cover Type Identification From Satellite Images. | 2004 | University of Mosul/ College of Mathematics and Computer Science/ Computer Science Dept. | Ma'n Abdulkhalik Al-Bag'oa |
| 12 | Land Cover Change Detection of Balad Using Image Processing Methods | 2004 | University of Tekrit/ College of Education/ Department of Geography | Ruqaya Ahmed Al-Ani |
| 13 | Radar Image Correction For Speckle Noise. | 2004 | University of Mosul/ College of Mathematics and Computer Science/ Computer Science Dept. | Hadher Ibrahim Al-Jebury |
| 14 | Integration Between Classical & Neural Network Approaches For Unsupervised Classification of Remote Sensing Data. | 2004 | University of Mosul/ College of Mathematics and Computer Science/ Computer Science Dept. | Lubna T. Hmedi Al-Kuhla |
| 15 | Using Image of Satellites as Data Base in Spatial Analysis of Geographical Information System. | 2004 | University of Mosul/ College of Mathematics and Computer Science/ Computer Science Dept. | Yaseen Dawood Al-Zubaidy |
| 16 | Construction of a Proposed System Of Multiple Classification For Remote Sensing Data. | 2002 | University of Mosul/ High Institute for Remote Sensing. | Kanar M. Sami Al-Nuaimy |
| 17 | Image Recognition Using Pattern Entropy And Invariant Moments | 2002 | University of Mosul/ High Institute for Remote Sensing. | Fadwa Subhi Mustafa Al-Azzo |
| 18 | An Interactive Software For Image Registration Using New Algorithms. | 2002 | University of Mosul/ High Institute for Remote Sensing. | Abeer Adil Al-Allaf |
| 19 | Multispectral Image Fusion Using Wavelet Transform. | 2001 | University of Mosul/ High Institute for Remote Sensing. | Abdul-Rahman Ramzi Qub'a |
| 20 | An Integrated Software For Remote Sensing Data Classification. | 2001 | University of Mosul/ High Institute for Remote Sensing | Turkan Ahmed Khaleel |
| 21 | An Interactive Software For Satellite Image Filtering Using Fourier Domain. | 1998 | Dept.University of Mosu College of Science/ Computer Science Dept. | Dhya Hazim Al-Barhawee |
| 22 | A PC Based Multispectral Image | 1998 | Dept.University of Mosu | Hayder Khaleel Eesa |

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| | Processing Software For Remote Sensing Applications. | | College of Science/ Computer Science Dept. | |
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2. Supervision Ph.D Thesis

| No. | Thesis Title | Year | University/College | Student Name |
|-----|--|------|---|------------------------|
| 1- | Vectorization of Remote Sensing Data for GIS Use | 2006 | University of Mosul/ College of Mathematics And Computer Science/ Computer Science Dept. | Dhya Hazim Al-Barhawee |

Publications:

- 1) **Tahir, A. AK., and Anghelus, S.,** (2024), “Biometric Based Recognition Systems - An Overview”, International Journal of Open Information Technologies, Vol. 12, No. 7, pp. 110-118.
- 2) **Tahir A. AK., and Mustafa, A. A.,** (2022), “Improving the Performance of Finger Vein Recognition Using the Local Histogram Concatenation of Image Descriptors”, International Journal of Pattern Recognition and Artificial Intelligence, Vol. 36, No. 14, pp. 2256020-1-22, <https://doi.org/10.1142/S0218001422560201>.
- 1) **Tahir, A. AK., and Anghelus, S.,** (2022), “Improving Iris Recognition Accuracy Using Gabor Kernels with Near-Horizontal Orientations”, International Journal of Advances in Signal and Image Sciences, Vol. 8, Issue 1, pp. 25-39.
- 2) **Tahir, A. AK., Dawod, S. S., and Anghelus, S.,** (2021), “An iris recognition system based on a new method of iris localization”, International Journal of Open Information Technologies, Vol. 9, No. 7, 2021, pp. 67-76.
- 3) **A. A. Mustafa, A. A., and Tahir A. AK.,** “A New Finger-Vein Recognition System Using the Complete Local Binary Pattern and The Phase Only Correlation”, International Journal on Signal and Image Sciences, Vol. 7, No. 1, 2021, pp. 38-56.
- 4) **Tahir, A. AK., and Anghelus, S.,** (2020), “An accurate and fast method for eyelid detection” International Journal of Biometrics (IJBM), Vol. 12, No. 2, Pp. (163-178).
- 5) **Mohammed A. I., and Tahir A. AK.,** 2020, “A New Optimizer for Image Classification Wide ResNet (WRN)”, Academic Journal of Nawroz University (AJNU), Vol. 9, No. 4, Pp. (1-13). <https://doi.org/10.25007/ajnu.v9n4a858>
- 6) **Mustafa A. A., and Tahir A. AK.,** 2020, “Improving the Performance of Finger-Vein Recognition System Using A New Scheme of Modified Preprocessing Methods”, Academic Journal of Nawroz University (AJNU), Vol. 9, No. 3, Pp. (397-409).<https://doi.org/10.25007/ajnu.v9n3a855>
- 7) **Mohammed A. I., and Tahir A. AK.,** 2020, “A New Image Classification System Using Deep Convolutional Network and Modified AMSgrad Optimizer”, J. Duhok Univ., Vol. 22, No. 2, Pp. (89-101).

- 8) **Tahir, A. AK., and Anghelus, S.**, “Human Biometrics and Biometric Recognition Systems; An Overview (BIOMETRICA UMANĂ ȘI SISTEMELE DE RECUNOȘTERI BIOMETRICE; O IMAGINE DE ANSAMBLU)”, A XIX-a International Conference on Multidisciplinary, "Professor Dorin Paul - Romanian hydropower founder", Cluj-Napoca, Romania, September (20-21), 2019, Revista "ȘTIINȚĂ ȘI INGINERIE", Vol. 35/2019, Pp (431-446), <http://stiintasiinginerie.ro/wp-content/uploads/2020/05/52.-HUMAN-BIOMETRICS-AND-BIOMETRIC-RECOGNITION-SYSTEMS-AN-OVERVIEW-Ahmed-AK.-TAHIR-Stelu%C8%9Ba-ANGHELU%C8%98.pdf>
- 9) **Tahir A. AK. And Anghelus Steluta**, “A New Method of Eyelid Detection for Iris Recognition (O NOUĂ METODĂ DE DETECTARE A PLEOAPELOR PENTRU SISTEMUL DE RECUNOAȘTERE A IRISULUI)”, The XVIII International Conference on Multidisciplinary, "Professor Dorin Paul - Romanian hydropower founder", Cluj, Romania, June (1-2), 2018, Revista "ȘTIINȚĂ ȘI INGINERIE", Vol. 33/2018, Pp (171 - 184).
- 10) **Tahir A. AK. And Al-Dohuki Shamal**, “Image Fusion For Resolution Improvement Of Multispectral Satellite Images (FUZIUNEA IMAGINII PENTRU ÎMBUNĂTĂȚIREA IMAGINILOR MULTISPECTRALE PRIN SATELIT)”, The XVII International Conference on Multidisciplinary, "Professor Dorin Paul - Romanian hydropower founder", Sebes, Romania, June (2-3), 2017, Revista "ȘTIINȚĂ ȘI INGINERIE", Vol. 31/2017, Pp (397 - 412).
- 11) **Tahir A. AK. And Bindian A. I.**, “Iris Localization for biometric based person Identification”, the XVI International Conference on Multidisciplinary, "Professor Dorin Paul - Romanian hydropower founder", Sebes, Romania, June (10-11), 2016, Revista "ȘTIINȚĂ ȘI INGINERIE", Vol. 30/2016, Pp (215 - 224).
- 12) **Tahir A. AK.**, “Integrating artificial neural network and classical methods for unsupervised classification of optical remote sensing data”, *EURASIP Journal on Advances in Signal Processing* 2012,2012:165 doi:10.1186/1687-6180-2012-165.
- 13) **Tahir A. AK.**, “A Multiple Classifier System for Supervised Classification of Remotely Sensed Data”, J. Duhok Univ., Vol.14, No.1 (Pure and Eng. Sciences), Pp 260-273, 2011.
- 14) **Tahir A. AK.**, “A System Based on Ratio Images and Quick Probabilistic Neural Network for Continuous Cloud Classification”, *IEEE Transactions on Geoscience and Remote Sensing*, Vol. 49, No. 12, Pp 5008-5015, DECEMBER 2011.
- 15) **Tahir A. AK.**, “Improving Spatial features of Multispectral Satellite Images using Wavelet Transform”, The First scientific Conference of the Scientific research council, High Education Ministry, Baghdad, 14th- MAY-2002.

- 16) **Tahir A. AK.**, “Interactive Specification of Multispectral Dataset Transformation Through 3D Display of Feature Space”, The First Iraqi Conference of Remote Sensing, Remote Sensing Society of Iraq, Baghdad, OCTOBER-1997.
- 17) **Tahir A. AK.** and Al-Barhawi D. H., “An Interactive Software for Satellite Image Filtering Using Fourier Domain”, Al Rafidain Science Journal, Vol.13, No.1, Published by the University of Mosul, 2001.
- 18) **Tahir A. AK.** and Esa H. K., “A PC-Based Image Processing Software”, Education and Science Journal, No.49, Published by the University of Mosul, 2001.
- 19) **Tahir A. AK.**, “Generation and Display of False Colour Composite Using Personal- Computer”, Al Rafidain Science Journal, Vol.12, No.2, Published by the University of Mosul, 2000.

Implemented Projects:

| Project Title | Sponsor | Year |
|---|---|-------------|
| Design of Navigation System Software using GPS Facilities | Al-Kendy Company, Ministry of military manufacturing, Mosul, Iraq | 2001 |
| Design of Image Processing System For Remote Sensing Application. | University of Tekrit, Remote Sensing Unit.. | 2002 |

Professional Activities:

Membership and Academic Activities

- 1) Member in several journals and societies
 - IEEE
 - EURASIP Journal on Image and Video processing
 - Iraqi Society for Remote Sensing
 - Kurdistan Physicists Syndicate

- 2) Reviewer of the following journals:
 - Journal of IEEE Transaction of Geoscience and Remote Sensing.
 - Journal of Intelligent System (JISys).
 - International Journal of Remote Sensing in UK.
 - IET-Image Processing
 - Al-Rafidain Journal in University of Mosul.
 - Iraqi National Geology Journal.
 - Duhok University Journal.

- Proceedings of Zakho conference on science.
- 3) Member and chair of examination committee for many MSCs and PHDs oral exams.
 - 4) Leadership of academic committees (Scientific Committee and Postgraduate Committee) at the department of Computer Science, 2011-2018.
 - 5) Committee Board Member for the College of Science/University of Duhok, 2011-2018.
 - 6) Member of the Scientific Committee and Postgraduate Committee at Physics department, 2018-2021.
 - 7) Member of the Scientific Committee and Postgraduate Committee at the department of Computer Science, 2021-2022.