

Curriculum Vitae

Professor Dr. Ibrahim Ismael HAMARASH

(PhD. MSc. MRes. BSc. Eng.)

Personal Information

Ibrahim Ismael Hamad (Ibrahim Hamarash)

Professor of Electrical and Computer Engineering

Salahaddin University-Erbil

Adjunct Professor at University of Kurdistan-Hewler

Erbil, Kurdistan, Iraq

Cell.: +964-7504451357, +9647704451357 (WhatsApp)

SU e-mail: ibrahim.hamarash@su.edu.krd

UKH email: ibrahim.hamad@ukh.edu.krd

Personal e-mail: ibrahim.hamarash@gmail.com

ORCID: 0000-0002-3673-5653

Website: <https://ibrahimhamarash.github.io>

Birth Date: July 1, 1967

Family Status: Married, Two Daughters; Shan & Lala

Permanent Address: English Village 328,

Erbil, Kurdistan, Iraq

Languages: English- Excellent (Spoken and written)

Arabic- Fluent (Spoken and written)

Kurdish (Mother tongue)

EDUCATION

Ph.D. Electrical Engineering (Major: Control Systems Engineering), 1999,
University of Technology-Baghdad, Dept. of Electrical & Electronics Eng.
Thesis Title:

"Damping of Low Frequency Oscillations in Large Electrical Power Systems
using Selected Modes Pole Assignment Controller".

MRes. Computer Science (Major: Artificial Intelligence), Thesis Title: "A Path
Planning Algorithm Based on a New Obstacle Avoidance Method: A Case
Study of Flocking Rules for Autonomous Multi-Mobile Robots,
Staffordshire University, UK.

M.Sc. Electrical Engineering (Major: Control and Computer Engineering), 1993,
University of Mosul, Mosul, Iraq. Thesis Title: "A Numerical Method For
Pole Assignment Synthesis of Linear Time Invariant Control Systems Using
State Feedback"

B.Sc. Electrical Engineering (Major: Electronics and Communications
Engineering), 1988, Salahaddin University-Erbil, Kurdistan, Iraq.

Postdoctoral Research (one-year visiting researcher), 2007, Monash University,
Melbourne, VIC, Australia.

ICT Management Certificate, UCSD, USA, 2005

ACADEMIC CERTIFICATES, HONORS & AWARDS

- Academic Leadership, Leadership Foundation for Higher Education, 2011, Nottingham, UK.
- Endeavour Award, 2007, Australian Government, Australia.
- Project Management Certificate, 2005, Beyster Institute, Rady School of Management, University of California in San Diego, CA, USA.

EMPLOYMENT HISTORY

2013-present Professor at Salahaddin University-Erbil (Tenure).
2023-2025 Adjunct Professor at the University of Kurdistan Hewler.
2018-2023 Professor at the University of Kurdistan Hewler.
2017- 2018 Dean of Engineering, Salahaddin University-Erbil, Kurdistan, Iraq.
2010- 2017 Vice President for Scientific Affairs and Postgraduate Studies, Salahaddin University-Erbil, Erbil, Kurdistan, Iraq.
2008- 2010 Head of the Electrical Engineering Dept, College of Eng, Salahaddin University-Erbil, Erbil, Kurdistan, Iraq.
2007-2008 Head of Computer License Test Committee, Salahaddin University, Erbil. Kurdistan.
2007-2007 Academic Visitor, Monash University, Melbourne, Victoria, Australia.
2005-2007 Assist. Professor at the Dept. of Electrical Eng, College of Engineering, University of Salahaddin-Erbil.
2000-2004 Founder and Head of the Department of Software Engineering, College of Engineering., University of Salahaddin-Erbil, Kurdistan, Iraq.
1999-2000 Computer Center Manager, Salahaddin University-Erbil, Erbil, Kurdistan, IRAQ.
1999-2005 Lecturer, Department of Electrical Engineering, College of Engineering, Salahaddin University-Erbil.
1994-1998 Founder and Owner, Zanco for Computers Ltd., Erbil, Kurdistan, Iraq.
1993-1999 Assistant Lecturer, Department of Electrical Engineering, College of Engineering, University of Salahaddin-Erbil.
1988-1991 Electrical and Communication Engineer, Trudbinik Ltd. (A Yugoslavian Company, Project 1101 in Iraq), Baghdad, Iraq.

RESEARCH INTERESTS

Software Architecture and Design, Human Computer Interaction, Electrical and Computer Systems, Robotics, Artificial Intelligence, Information Systems, Nonlinearities, Machine Learning.

INDUSTRY EXPERIENCE

- **Designer & Builder** (2010): Mobile Education Center for Regenerative Energy and Automation, in collaboration with the University of Applied Sciences Karlsruhe, Germany.
- **Project Manager** (2006): e-Parliament Project – Led hardware and software design, installation, deployment, and training for the Kurdistan Parliament, in partnership with B-Plan Information Systems Ltd. (UK).

- **Localization Lead** (2005): Ifraz Water Station Operation Manuals – Translated and adapted operational manuals into Kurdish for the newly installed Ifraz Water Station in Erbil (Kurdistan, Iraq) on behalf of Goulds Pumps (USA) and Agenew (USA).
- **System Architect & Developer** (2005): PERIS: HR and Payroll System – Conducted system analysis, software architecture and design, localization, database design, implementation, manual development, and training with B-Plan Information Systems Ltd. (UK) for the Ministry of Education, Erbil, Kurdistan, Iraq.
- **Project Manager** (2004-2005): ICT Infrastructure Development & Installation – Led the development and installation of ICT infrastructure for the Ministry of Education, Kurdistan, Iraq, in partnership with B-Plan IS Ltd. (UK).
- **Project Manager** (2002): IT Conversion Course for High School Teachers – Managed a three-month training program for 600 high school teachers in the Kurdistan Region, implemented for UNESCO and the Ministry of Education, KRG, Erbil, Kurdistan.
- **Electrical & Control Systems Designer** (2001): Azmir-Sulaimani Substation Rehabilitation – Designed all electrical and control systems for the substation rehabilitation, working with Zozik Ltd. and UNDP, Erbil.
- **Control & Wiring Designer** (2001): Chambarakat-Duhok Water Station – Designed PLC, control, and wiring systems for the station in collaboration with UNICEF, Erbil (with Dr. Kamal Haji Nabi).
- **Data Analyst & Documentation Specialist** (2000): Erbil 29 MW Power Station Project – Led data collection, analysis, visualization, and documentation in collaboration with the Engineering Bureau of the College of Engineering and UNDP.

GRANTS & FUNDS

- 2024 IEEE Local Language Activity, IEEE Region 8 (Europe and ME Region).
- 2019 Research Fund from GIZ (Germany) to establish a Data Centre at the University of Kurdistan Hewler for storing and public sharing of data collected by UKH student and staff , together with a pilot-study about IT job market in Kurdistan Region, research team: (A team from the University of Kurdistan-Hewler), Grant amount: 40,000 US\$.
- 2017 Research Fund from KRG for a research project with University of Florida (USA), the project title is: Sensor based intelligent control of robotic systems , research team (Prof. Ibrahim Hamarash, Proff. Carl Crane III, Ph.D. student, Mustafa Atrushi), in progress, (34,000 US\$).
- 2013 Research Fund from KRG for a research project with University of Florida (USA), the project title was: Inclination estimation of links of a serial manipulator, research team (Proff. Ibrahim Hamarash, Proff. Carl Crane III, Ph.D. student Dler Salih Hasan), completed in 2017, (50,000 US\$).
- 2013 IRIS (USA) to design the curriculum for a new module (Critical thinking and Academic Debate), a core for for all new students, with Appalachian University, 2013.
- 2011 DelPHE (UK) to establish quality assurance at Salahaddin University-Erbil, with Coventry University, 2011.

- 2009 DAAD academic visitor for 10 days, Germany, all costs for a visit to Karlsruhe University for Applied Science to design and build a mobile renewable energy training centre, 2010.
- 2007 Endeavour Research Fellowship, Dept. of Education, Science and Training, Australia, (25,000 A\$)
- 2004 NSF(USA), all registration fees, flights, accommodation and live expenses for participation in IEEE-Artificial Intelligence and MED04 conferences, Istanbul, Turkey.
- 2000 UNESCO, Kurdistan Office, Grant, Supporting a Research Titled "PC Based Relay Test Systems", Total amount of the grant: \$1700.

COURSES ATTENDED

- 2019 Modern Robotics, the foundation of robot motion, (online via Coursera), Northwestern University, USA.
- 2015 Endeavour Executive Fellow, four months short courses in higher education leadership, Monash University, Australia.
- 2011 Higher Education Leadership and Management in Iraq, Leadership Foundation for Higher Education, British Council and BIS, Nottingham, UK.
- 2005 MEPI, Middle East Entrepreneur Training in the United States (MEET U.S.), funded by the Bureau of Near Eastern Affairs, Office of the Middle East Partnership Initiative, U.S. Department of State, and administered by FED.", San Deigo, USA.
- 2001 Election Processes Observation, Organized by Electoral Reform Society in London and OSCE, Erbil, Kurdistan, Iraq.

SELECTED CONFERENCES (as a Keynote Speaker or paper presenter)

1. New York AI Summit, New York , USA, December 6-7, 2023.
2. IEEE ICCMA 2019 conference, Amsterdam, Netherland, Nov. 6-8, 2019.
3. 11th Asian University Presidents Forum, 2012, Bussan, Korea.
4. UK-KRG Higher Education Partnership, London, 2012, UK.
5. Middle East Entrepreneur Training (MEET) Alumni Conference, US dept of State, Istanbul, August 4-5, 2009 , Turkey.
6. International Congress on Engineering, WCE2008, 2-4 July 2008, London, UK.
7. Middle East Entrepreneur Training (MEET) and Legal and Business Fellowship Program (LBFP) Joint Alumni Conference, Middle East Partnership Initiative (MEPI) at the U.S. Department of State 9-11 June 2008, Dead Sea, Jordan.
8. Kurdistan Contracting Engineering Organizations (K-CEDO), 27-29 May 2008, Erbil, Kurdistan, Iraq.
9. International Control Conference-ICC2006, 30 Aug-1 Sept 2006 Strathclyde University, Glasgow, UK.
5. MEET US Alumni Conference, US Dept of State, 16-17 Nov.,2005, Manama, Bahrain.
6. 35th International Conference on Computer& Industry Eng.,19-22 June, 2005, Istanbul, Turkey.
7. The 2nd International OECD of Ministries responsible for Small and Medium Size Enterprises (SMEs), 3-5th June 2004,Istanbul, Turkey.

8. The IEEE International Conference on Mechatronics(ICM'04), 3-5th June 2004, Istanbul, Turkey.
9. The 12th IEEE Mediterranean Conference on Control & Automation, June,6-9, 2004,Izmir, Turkey
10. A Workshop in Cooperation between the university of Duhok and Baylor University (USA) for Developing Engineering and Computer Science Syllabi, 17-19th Dec.2003, Duhok.
11. International Conference on Control Applications, Istanbul, Turkey, 23-25th June,2003.
12. The 1st Program and Syllabi Conference of The University of Salahaddin, April, 2001, Erbil, Iraq(Editorial Board).
13. The 3rd Education Conference of The Ministry of Education (Computer Sector), 2001,Erbil, Iraq.
14. The 3rd International Conference on Computational Aspects and Their Applications in Electrical Engineering, Philadelphia University, Jordan, 19-20th October 1999.
15. The 1st Computer Technology Conference and Exhibition (Founder and Member of Organizing Committee), Ministry of Transportation and Communication, April 1998, Erbil, Iraq.

SELECTED PAPERS

1. Ibrahim Hamarash and Yara Moayad, 2025, Enhanced Human Activity Recognition (HAR) with IMU Sensors in Smartphones: Insights from Machine Learning Models. Zanco Journal for Pure and Applied Sciences. Accepted for publication.
2. Ibrahim Hamarash and Haneen Khalid Dany, Developing IT Service Management in Higher Education Institutions: A Case Study of ITIL Implementation in Universities in the Kurdistan Region of Iraq, The 3rd International Conference on Engineering and Innovative Technology, Salahahaddin University-Erbil, 30-31 October 2024, Erbil, Kurdistan, Iraq. <https://doi.org/10.31972/iceti2024.008>
3. Ibrahim Ismael Hamarash, and A Thoalfaqar Sabah Saleh, A Design-Agnostic Framework for the Salvage and Reverse-Engineering of Unmanned Aerial Vehicles (UAV), The 3rd International Conference on Engineering and Innovative Technology, Salahahaddin University-Erbil, 30-31 October 2024, Erbil, Kurdistan, Iraq. <https://doi.org/10.31972/iceti2024.077>
4. Ibrahim Hamarash and Aveen Kakameen, Predicting Long-Term COVID-19 Symptoms Using Machine Learning: A Case Study in Kurdistan of Iraq, The Scientific Journal of the University of Duhok, Vol. 26, No.2, 2023, PP. 605-612.
5. Ibrahim Hamarash and Karwan Mawlood, Electrification of Isolated Rural Areas Through Hybrid Wind/Solar/Diesel Micro Station A case study in the Kurdistan Region of Iraq, Zanco Joornal for Pure and applied Science, Vol.35,-3986, Nov.2023.PP.35-45. <http://dx.doi.org/10.21271/ZJPAS.35.SpA.4>
6. Ibrahim Hamarash and Dastan Kamal Tahir, Falls Detection in a Wheelchair Using Wearable IMU Sensor and Machine Learning, ICRIE Conference, University of Duhok, 13-14 Sept. 2023.
7. Ibrahim Hamarash, et.al. Effect of the electromagnetic induction on a modified memristive neural map model, Mathematical Biosciences and Engineering, Vol.20, No.10, pp. 17849-17865, Sept. 2023. [doi: 10.3934/mbe.2023793](https://doi.org/10.3934/mbe.2023793)
8. Ibrahim Hamarash, Amal Taha, Design and Simulation of a Hybrid Wind/Solar/Diesel/Battery Off-Grid System for Rural Areas: A case Study in Al-

- Mahmudiyah Tribal Zone of Iraq, Zanco for Pure and Applied Sciences, 35(2), 2023. PP.9-21. DOI: <https://doi.org/10.21271/ZJPAS.35.2.2>
9. Ibrahim Hamarsah, et.al. Firing patterns of Izhikevich neuron model under electric field and its synchronization patterns, The European Physical Journal Special Topics, Springer Open 1-7, 5 July 2022. <https://doi.org/10.1140/epjs/s11734-022-00636-0>
 10. Ibrahim Hamarash, et.al., Investigation of the Simplest Megastable Chaotic Oscillator with Spatially Triangular Wave Damping, Int. Journal of Bifurcation and Chaos, Vol. 32, No. 7 (2022) 2230016 <https://doi.org/10.1142/S0218127422300166>
 11. Ibrahim Hamarash, Nian Khidr, Justin Champion, Evaluation of Smartphone's Embedded Sensors Through Applications: A Case study of Gyroscope and Accelerometer, UKH Journal of Science and Engineering, Vol. 5, No.2, 2021.
 12. Ibrahim Ismael Hamarash, et al., Various bifurcations in the development of stem cells, The European Physical Journal Special Topics, 13 Nov.2021. <https://doi.org/10.1140/epjs/s11734-021-00322-7>
 13. Teeba Ismail Kh., Ibrahim I. Hamarash, "Model-Based Performance Quality Assessment for IoT Applications", International Journal of Interactive Mobile Technologies (ijim), Vol 15, No. 12 (2021). <https://doi.org/10.3991/ijim.v15i12.21287>
 14. Ibrahim Hamarash, Rawan A. AlRashid Agha, Zhwan Hani Mahdi, Muhammed N. Sefer, "A ROS-Gazebo Interface for the Katana Robotic Arm Manipulation, UKH Journal for Science and Engineering, Vol.5, No.1, (2021)
 15. Ibrahim Ismael Hamarash, Mohhamd S., Hasan, "A Review: On using ACO Based Hybrid Algorithms for Path Planning of Multi-Mobile Robotics", International Journal of Interactive Mobile Technologies (ijim), Vol 14, No. 18 (2020). <https://doi.org/10.3991/ijim.v14i18.16371>
 16. Ibrahim Hamarash and Teeba "Model-Based Quality Assessment of Internet of Things Software Applications: A Systematic Mapping Study", International Journal of Interactive Mobile Technologies (ijim), Vol 14, No. 09 (2020)
 17. Ibrahim Hamarash, et.al., "A fractional order model for the novel coronavirus (COVID-19) outbreak", Nonlinear Dynamics, 24 June 2020.
 18. Ibrahim Hamarash, Biquan Chen, et.al., "Simple megastable oscillators with different types of attractors: tori-Chaotic and hyperchaotic ones", EPJ-ST, 229, 1115-1161, 2020.
 19. Ibrahim Hamarash, Lianyu Chen, et.al., "A novel chaotic system in the spherical coordinates". EPJ-ST, 229, 1257-1263, 2020.
 20. Ibrahim Hamarash, Gervais Dolvis Leutcho, Sajad Jafari, Jacques Kengne, Zeric Tabekoueng Njitacke, Iqtadar Hussain, "A new megastable nonlinear oscillator with infinite attractors", Chaos, Solitons & Fractals, 134 (2020) 109703.
 21. Ibrahim Hamarash, Mustaha M, Mustafa, Carl D Crane III, "Adaptive-Sliding Mode Trajectory Control of Robot Manipulators with Uncertainties", Zanco for Pure and Applied Sciences, The scientific Journal of Salahaddin University-Erbil, 2020.
 22. Ibrahim Hamarash, Zhen Wang, F. Parastesh, K. Rajagopal, Iqtadar Hussain, "Delay-induced synchronization in two coupled chaotic memristive Hopfield neural networks", Chaos, Solitons & Fractals, Vol.134, 109702, 2020. <https://doi.org/10.1016/j.chaos.2020.109702>
 23. Ibrahim Hamarash, Mustafa M. Mustafa, Carl D. Crane III, "Dedicated Nonlinear Control of Robot Manipulators in the Presence of External Vibration

- and Uncertain Payload", *Robotics* **2020**, 9(1),2;
<https://doi.org/10.3390/robotics9010002>
24. Ibrahim Hamarash, Zhen Wang, Sajad Jafari, "A New Mega-stable Oscillator with Rational and Irrational Parameters, *Int. Journal of Bifurcation and Chaos*, 29(13) 1950176(2019), doi.org/10.1142/S0218127419501761.
 25. Ibrahim Hamarash, Chao-Yang Chen, Karthikeyan Rajagopal, Fahimeh Nazarimehr, Fawaz E. Alsaadi and Tasawar Hayat, Antimonotonicity and multistability in a fractional order memristive chaotic oscillator, *Eur. Phys. J. Special Topics* **228**, 1969-1981 (2019).
 26. Ibrahim Hamarash , Mustafa Mustafa, and Carl Crane , Equilibrium Formulation of a 3-DOF Compliant Mechanism Using Sylvester's Dyalitic Method of Elimination, *IEEE ICCMA conference*, Amsterdam, 6-8 Nov.2019. Available online in IEEEXplore.
 27. Ibrahim Hamarash, Carl Crane III, Dler Salih, Using Inertia Sensors for Orientation Estimation of Robot Manipulators, *Zanko Journal for Pure and Applied Sciences*, 31 (S3), 2019, pp. 318-323.
 28. Ibrahim Hamarash and Mustafa Mustafa, A Microcontroller-Based Motion Control for DC Motor Driven Robot Link, *IEEE ACEMP conference*, Istanbul, 2019. Available online in IEEEXplore.
 29. Ibrahim Hamarash, Muhammed Ibrahim Diari Sulaiman, The Complete Switching Circuit Design for CPU Joint Body Biasing and Supply Voltage Scaling, *Zanko Journal for Pure and Applied Sciences*, 31(S3), 2019, pp 20-25
 30. Ibrahim Hamarash, Diari Sulaiman and Muhammed Ibrahim, Using DTVS Technique for Microprocessor's Power and Thermal Management, *Journal of Electrical and Electronics Engineering (jeee)*, University of Oradea, Romania, Vol. 11, No. 1, May 2018.
 31. Ibrahim Hamarash, Diari Sulaiman and Muhammed Ibrahim, Microprocessors optimal power dissipation using combined threshold hopping and voltage scaling, *IEICE electronic express*, December 2017. DOI 10.1587/elex.14.20171046
 32. Ibrahim Hamarash, Diari Sulaiman and Muhammed Ibrahim, Adaptive Supply and Body Voltage Control for Ultra-Low Power Microprocessors, *IEICE electronic express*, Vol. 14, No. 12, 2017, DOI: 10.1587/elex.14.20170306.
 33. Ibrahim Hamarash and Dlesr Hasan, Real time data acquire from multiple accelerometers and IMU to calculate 3-direction angles and relative orientation, *Zanko Journal of pure and applied sciences*, ZJPAS, Vol. 29, No.2, 2017, PP.157-165.
 34. Ibrahim Hamarash, Fanar Fareed, Nian Aziz and Tarik Rasheed, The Influence of Illumination on Facial Feature Extraction, *Proceedings of Internet Technologies and Applications (ITA)*, Glyndwr University, UK, September 2015, PP.269-272.
IEEE publication DOI:10.1109/ITechA.2015.7317408
 35. Ibrahim Hamarash and Polla Fatah, "Optimization of association rule mining", *Proceedings of Internet Technologies and Applications (ITA)*, Glyndwr University, UK, September 2015, PP.273-278.
IEEE publication DOI:10.1109/ITechA.2015.7317409
 36. Ibrahim I Hamarash, "Small Signal Stability Analysis of Kurdistan Regional Power System", *Zanco, The Scientific Journal of Salahaddin University-Erbil*, No.1, Vol.24, 2012.

37. Ibrahim I Hamarash, Qaysar S Mahdi, and Jamal A Hassan, "Availability Analysis of GSM Network Systems", 978-1-4244-6908-6/10©2010 IEEE. DOI:10.1109/ISAPE.2010.5696532
38. Ibrahim I Hamarash, "Modeling and Simulation of the Perdawd CCGS Connected to the Kurdistan Regional Power System of Iraq Using Simulink", Lecture Notes in Engineering and Computer Science, Vol 2170, Issue 1, 2008, PP 381-385.
39. Ibrahim I. Hamarash, "Modeling and Simulation of Perdawd CCPS Connected to Kurdistan Regional Power System of Iraq", Proceedings of WCE Conference, London, UK, 2-4 July 2008.
40. Sensitivity of Large System Parameters to Perturbations: a Data Mining Approach, Zanco, Vol. 6, No.3, 2008.
41. Ibrahim I. Hamarash & Dlawer Maroof, "Monitoring of Power System Control Functions: A Database Approach", Proc. of ELECO2007, Bursa, Turkey, 5-9 Dec 2007.
42. Ibrahim I. Hamarash, "Application of ANN to Low Frequency Oscillations Detection in Iraqi National Power System", International Control Conference-ICC2006, Glasgow, UK, 30 Aug-1 Sept 2006.
43. Ibrahim I. HAMARASH, "Eigenvalues Sensitivities of Systems With State Feedback to Structured Perturbations in System Parameters", WSEAS Transactions on Applied Mathematics, Vol. No. , June 2006.
44. Ibrahim I. HAMARASH and Diari Rauf, "Dynamic Voltage Frequency Scaling (DVFS) for Microprocessor Power & Energy Reduction", The Proc. Of 4th In. Conf. on Electrical & Electronics Engineering, 7-11 Dec.2005, Bursa, Turkey.
45. Ibrahim Ismael Hamarash, "Application of Neural Network Method to the Small Signal Stability Analysis of Iraqi Power System", Proceedings of the 35th International Conference on Computer& Industrial Eng.,19-22 June, 2005, Istanbul, Turkey.
46. Ibrahim Ismael Hamarash, Nian A.K, and Amin Abas, "Reliability Assessment of the Ministry of Education's ICT Infrastructure System", Proceedings of the 35th International Conference on Computer& Industry Eng.,19-22 June, 2005, Istanbul, Turkey.
47. Ibrahim Ismael Hamarash" Small Signal Stability Analysis of Iraqi National Power System", MED'04(with IEEE) Conference, Turkey, June2004.
48. Ibrahim Ismael Hamarash" A PC Based Real Time Remote Control for a Kid's Game Car", The Scientific Journal of Duhok University, No.2, 2004.
49. Ibrahim Ismael Hamarash & Fadhil T. Aula" Interface Implementation of Parallel Port of PC for Testing Over current Relays", ZANCO: Journal of Pure and Applied Sceince, Salahaddin-Erbil University, Vol.14, No.2, 2002, PP.5-14.
50. Ibrahim Ismael Hamarash & Kosay Abdul-Sattar" Improving The Stability of a Synchronous Generator Using Prespecified Root Controller", Proceedings of CATAEE'99, The Third International Conference on Computational Aspects and Their Applications in Electrical Engineering"19-20, Oct.1999, Philadelphia University, PP.371-379.
51. Ibrahim Ismael Hamarash & Kosay Abdul-Sattar" Changing The Stability Mode of a Power System Using Prespecified Pole Controller", The Scientific Journal of Tikrit University, Vol.6, No.4, 1999, PP.136-162.

52. Ibrahim Ismael Hamarash” Pole Assignment Controller Design For Multi Area Power System”, Journal of Duhok University, Vol.2, No.6, 1999, PP.823-839.
53. Ibrahim Ismael Hamarash & Ali Husain,” Sensitivity Analysis For Pole Assignment Problems”, Al-Rafidain Eng. Journal, Vol.6, No.1998, ,PP.37-45.
54. Ibrahim Ismael Hamarash & Amin Abbas,”A Computer Aided Design For Root-Locus Plotting”, Proc. of Scientific Conf., 3-4 June 1997, Erbil, PP.193-198.
55. Ibrahim Ismael Hamarash & Ali Husain,” A Flexible Algorithm For Pole Assignment Synthesis Using State Feedback Controller”, Engineering and Technology- Baghdad, Vol, No. PP. 1994.

TEACHING EXPERIENCE

1. Undergraduate Courses

- | | |
|-----------|---|
| 2024-2025 | Special Topics in Software Engineering, Dept. of Computer Science and Engineering, University of Kurdistan-Hewler. |
| 2018-2023 | Human Computer Interaction, Dept. of Computer Science and Engineering, University of Kurdistan-Hewler. |
| 2018-2023 | Signals and Systems, Dept. of Computer Science and Engineering, University of Kurdistan-Hewler. |
| 2019-2020 | Industrial Computer Application, Dept. of Computer Science and Engineering, University of Kurdistan-Hewler. |
| 1993-2012 | Control Engineering, Dept. of Electrical Eng., College of Eng., University of Salahaddin-Erbil. |
| 2000-2006 | Database Systems, Dept. of Software Eng., College of Eng., University of Salahaddin-Erbil. |
| 2000-2005 | Computer Control Systems, Dept. of Software Eng., College of Eng., University of Salahaddin-Erbil. |
| 2000-2005 | Computer Architecture, Dept. of Software Eng., College of Eng., University of Salahaddin-Erbil. |
| 2000-2002 | Computer Organization, Dept. of Computer Science, College of Education, University of Salahaddin-Erbil. |
| 2000-2004 | Principles of Procedural and Structured Programming, Dept. of Electrical Eng., College of Eng., University of Salahaddin-Erbil. |

2. Postgraduate Courses

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| 2018-2025 | ITSM (MSc. Course), Dept. of Computer Science and Engineering, University of Kurdistan Hewler. |
| 2019-2025 | Software Architecture and Design (MSc.Course), Dept. of Computer Science and Engineering, University of Kurdistan-Hewler. |
| 2024-2025 | Software Requirements, (MSc. Course), Dept. of Computer Science and Engineering, University of Kurdistan Hewler. |
| 2020-2023 | Machine Learning (MSc Course), Dept. of Computer Science and Engineering, University of Kurdistan-Hewler. |
| 2018-2023 | Robotics (MSc. Course), Dept. of Computer Science and Engineering, University of Kurdistan-Hewler. |
| 2021-2023 | Robotics (PhD. Course), Dept. of Electrical Engineering, Salahaddin University-Erbil. |

- 2020-2021 Human Computer Interaction (PhD. Course), Dept. of Computer Science, University of Sulaimani.
- 2017-2018 Advanced Topics in Control Theory (PhD. course), Dept. of Mechanical Engineering, Salahaddin University, Erbil, Kurdistan, Iraq.
- 2008-2009 Information System Integration, (MSc, Dept of Software Eng, College of Engineering and Dept of Computer Science, College of Education, Salahaddin University-Erbil).
- 2007-2008 Computer Architecture and Organization, (MSc Electronics and Communication Eng, Univ. of Salahaddin-Erbil).
- 2005-2006 Advance Control Systems, (PhD. in Mechanical Engineering), Dept. of Mechanical Eng., University of Salahaddin-Erbil, Kurdistan, Iraq
- 2005-2006 Computer Architecture and Parallel Processing, (MSc. In ICT), Dept. of Electrical Eng., University of Salahaddin-Erbil, Kurdistan, Iraq
- 2005-2006 Data Modeling, (MSc in ICT.), Dept. of Electrical Eng., University of Salahaddin-Erbil, Kurdistan, Iraq.
- 2005-2006 Control Theory, (MSc in Power Engineering), Dept. of Electrical Eng., University of Salahaddin-Erbil, Kurdistan, Iraq.
- 2004 -2005 Dynamic Systems (MSc in Power Systems), Dept. of Elect. Eng., University of Sulaimani, Sulaimani, Kurdistan, Iraq
- 2003-2004 Computer Architecture and Organization, (Higher Diploma in IT) Dept. of Software Eng., College of Eng., University of Salahaddin-Erbil.
- 2003-2004 Data Modeling and Database Systems, (Higher Diploma in IT) Dept. of Software Eng., College of Eng., University of Salahaddin-Erbil.
- 2002-2003 Data Modeling, (Ph.D. in Statistics) Dept. of Statistics, College of Administration and Economic, University of Salahaddin-Erbil.
- 2001-2004 Modern Control Engineering, (MSc Course) Dept. of Electrical Eng., College of Eng., University of Sulaimani, Sulaimani. And College of Engineering, Salahaddin University-Erbil, Erbil.

3. Crash Courses

- 2022 Learn Robotics with Ibrahim Hamarash (using MyCobot 280 M5 Manipulator), University of Kurdistan Hewler, Erbil, Kurdistan, Iraq.
- 2005 Human Resources (HR) Systems, Ministry of Education, Kurdistan, Iraq
- 2003 Data Modeling and Database Systems, College of Engineering and UNESCO, Erbil, Kurdistan, Iraq.
- 2002 Developing Computer Skills for the Administration Staff (Deans and President) of the University of Salahaddin-Erbil, UNESCO.
- 2001 Development of a 3-month computer curriculum for a conversion course enabling secondary school Mathematics and Physics teachers to teach Computer Science. Project implemented under UNESCO in Erbil and Duhok.
- 2002 Database Systems, Technical Institute of Erbil and UNESCO, Erbil. Kurdistan, Iraq.
- 2000 Computer Maintenance and Repair, UNESCO and the University of Salahaddin/Hawler, Erbil, Kurdistan, Iraq
- 2000 Computer Applications, UNESCO and the Ministry of Education, Erbil, Kurdistan, Iraq.

4. Selected Public Seminars Outside the University

- 2025 AI and Engineering, Guest Speaker, Vibrance Engineering Group, Sulaimani, Iraq. https://youtu.be/Vm_Zl0QIM8A
- 2024 Unlocking Grant Success, Koya University, Koya, Kurdistan, Iraq.
- 2024 Creative Writing by Artificial Intelligence, Invited Speaker, 2nd Raman Festival, Erbil, Iraq
- 2024 AI and the Kurdish Language, Invited Speaker, Khani Organization for Intellectual Studies, Haidari Library, Erbil, Kurdistan, Iraq.
<https://youtu.be/OpcVsB0YbRs>
- 2024 Leveraging ChatGPT in Education, Erbil Polytechnic University, College of Technology.
- 2024 How AI Transforms Education, Kurdistan Education Forum (KEF), Erbil, Kurdistan, Iraq.
- 2024 The Future of AI, Erbil International Book Fair.
- 2024 The Role of AI in Academic Publication, Ministry of Higher Education and Scientific Research, KRG.
- 2024 Kurdish Language in the era of Artificial Intelligence, Kurdish Writer's Union, Erbil, Kurdistan, Iraq
<https://www.youtube.com/watch?v=V5sEXejpvK0&t=72s>
- 2022 Digitalization for Economic Growth and Development, GIZ Didar event, Erbil, Kurdistan, Iraq.
- 2021 Digital Transformation in the Government, Erbil HITEX2021.
- 2019 Kurdish Language in the era of IT, Kurdish Academy, Erbil, Kurdistan, Iraq.
- 2009 Modeling and Simulation of the Electrical Energy System of Kurdistan Region, Ministry of Electricity, KRG, Kurdistan.
- 2005 Kurdistan: the other Iraq, Grand Hyatt, San Diego, USA.
- 2005 Healthcare Information Systems, Ministry of Health, Sulaimani, Kurdistan, Iraq.
- 2002 Internet Based Dictionaries, Kurdish Writer's Union, Erbil, Kurdistan, Iraq.
- 1998 Embedded Systems, Ministry of Transportation and Communication, First Computer Exhibition, Erbil, Kurdistan, Iraq.

POSTGRADUATE STUDENTS

1. Ali Hussain Yousif, PhD in Computer Engineering, Research Title: AI-Driven Object Recognition and Manipulation for Advanced Robotic Tasks, Salahaddin University-Erbil. In Progress, anticipated completion: September 2026.
2. Assad Sabr, PhD in Power Systems, Research Title: Smart Energy Forecasting in Combined Cycle Gas Power Stations through Advanced Machine Learning Algorithms: A Case Study of Kurdistan, Iraq. Salahaddin University-Erbil. In Progress, anticipated completion: September 2026.
3. Trwska sabir, PhD in Power Systems, research Title: A Context-Aware Approach to Smart Building Energy Conservation: Harnessing Machine Learning for Data Analysis and Forecasting, Salahaddin University-Erbil. In Progress, anticipated completion: September 2026.
4. Yara Moayad, MSc in Control and computer Engineering, research Title: Utilizing Artificial Intelligence for Nighttime Seizure Detection in Epilepsy Patients via Wearable IMU Technology. In Progress, anticipated completion: September 2025.

5. Amal Taha, MSc in Control and Computer Engineering, Research Title: Design and implementation of a wind/solar/diesel based hybrid microgrid system, Salahaddin University-Erbil, 2023.
6. Karwan Mawlood, MSc in Power Systems Engineering, Research Title: Performance evaluation of the automatic control system for hybrid wind/solar/diesel remote areas electrification, Salahaddin University-Erbil, 2023.
7. Aveen Kakamen Mustafa, MSc in Computer Science, Research Title: A machine learning model for predicting long COVID-19 syndromes, 2023.
8. Sanarya Serwan Sherzad, MSc in Computer Engineering, Research Title: An Obstacle Avoidance Algorithm For An Autonomous Robot In An Unknown Environment With Testbed, UKH, in Progress.
9. Dastan Kamal, MSc in Computer Engineering, Research Title:, Research Title: “Wheelchair Fall detection Through Wearable Sensors and Machine Learning”, 2023.
10. Hangaw Qadir, MSc in Computer Science, Research Title: “Analyzing ECG Signals With Machine Learning For Diagnosing Abnormalities in Heart Activities”, UKH, 2022.
11. Rawaz Rahim, MSc in ITM, Research Title: “Design and Implementation of Voice Message in ITSM”, UKH, 2021.
12. Sivan Salar, MSc. in Computer Engineering, Research Title: “Design and Implementation of PLC based PID Controller”, UKH, 2021.
13. Srwa Fage Muhammad, MSc. in ITM, Research Title:” Performance Analysis of Social Media Marketing: The Case of Erbil”, UKH, 2021.
14. Teba Muhamed, PhD in Computer Engineering, **Joint project with Czech Technical University in Prague (Czech Republic), Co-supervisors: Asst. Proff. Dr. Miroslav Bures,** Asst. Proff. Bestun S. Ahmed, Research Title: “Assessing the Quality of Internet of Things (IoT) applications through Soft Computing Methods”, 2022.
15. Mustafa Atrushi, PhD in Control and Computer Engineering, **Joint Research with the University of Florida(USA), Co-supervisor: Proff. Carl Crane III),** Research title: ”Sensor based intelligent control of robotic systems, 2020.
16. Sara Azad Ahmed, MSc. in Computer Engineering, “ Path planning for robotic autonomeous luggage trolley collection at airports”, University of Kurdistan Hewle, 2020.
17. Haneen Khalid Ibrahim, “ Proposing processes in ITIL to develop ITSM on private educational sector in Kurdistan Region”, MSc in ITM, University of Kurdistan Hewler, 2020.
18. Harem Mohamed Hasan, MSc. in ITM, Thesis Title: “Adoption of the ITIL framework in Kurdistan Region Small and Medium size Enterprises (SMEs), University of Kurdistan Hewler, 2020.
19. Diari R. Sulaiman, PhD student, Research title: “Energy Dissipation in General Purpose Microprocessors”, 2019.
20. Dler Salih, PhD student, **Joint Research with the University of Florida(USA),** Theses Title: " Design and Implementing of a Tensigrity Mechanism”, 2017.
21. Arazw Saed, Thesis Title: Availability Analysis of MoH/KRG’s ICT Infrastructure, College of Education, Dept of Computer Science, Salahaddin University-Erbil, March 2011.

22. MSc Student: Huda AbdulJabar, Thesis title: Modeling and Simulation of Chamchamal Gas Power Station Using SIMULINK, College of Engineering, Salahaddin University-Erbil, July 2010.
23. MSc Student: Jamal Abdulla, Thesis title: Survivability Assessment of Networked Control Systems, College of Engineering, Salahaddin University-Erbil, Expected to be completed on July 2010.
24. MSc Student: Pola Abd-Alhameed, Thesis Title: Design and Implementation of a DataBot", College of Engineering, University of Salahaddin-Erbil, June 2008.
25. MSc Student: Ari Arif, Thesis Title: Application of Data Mining in Power System Small Signal Stability Analysis", College of Engineering, University of Salahaddin-Erbil, May 2008.
26. MSc. Student: Diari Raouf Othman, Thesis Title:" Energy Dissipation Analysis of General Purpose Microprocessors", College of Engineering, University of Salahaddin-Erbil, July 2005.
27. MSc. Student Dlawer Raoof, Thesis Title:" Monitoring of Power System Control Functions: A Database Approach", College of Engineering, University of Salahaddin-Erbil, Nov 2005.
28. MSc. Student: Fadhil Tawfiq Aula, Thesis Title: "Interface Implementation of Parallel Port of PC for Testing Over current Relays ", College of Eng, University of Salahaddin-Erbil, Aug.2002.

PUBLISHED BOOKS

1. Media Control by Noam Chomsky, translated from English into Kurdish, published by Mali Wafaye, 2018.
2. Reforming Higher Education in Kurdistan Region (in English), Salahaddin University Press, Erbil, 2013.
3. Computers, Text Books, Book-1 and Book-2(in Kurdish)), for 1st and 2nd Years Secondary Schools(13&14 years students) in Kurdistan Region of Iraq, Ministry of Education, Erbil, 2004.
4. Rembrandt and Other Essays (in Kurdish), Shvan Press, Sulaimani, 2002.
5. Microsoft Word 2000: An Introduction(in Kurdish), 1st Edition: Mardin Press, Erbil,2000, 2nd Edition, Shvan Press, Sulaimani,2002.
6. Computer Dictionary: English-Kurdish, MEDIA Publishers, Erbil,1999. Included in a Step by Step English learning Series, Lebanese Cultural Centre, Lebanon, 2011.

SUCCESSFUL AND SUSTAINABLE INITIATIVES

- 2014** Established and implemented a 120-hour General English Program for all new students at Salahaddin University, in collaboration with Reading University (UK). The program was later mandated by the Ministry of Higher Education as a core module for all public and private universities in the Kurdistan Region.
- 2013** Developed and launched the module "Academic Debate and Critical Thinking" with an IRIS grant and in collaboration with Appalachian University (UK). It was adopted by the Ministry of Higher Education as a core requirement across all universities in the Kurdistan Region.
- 2013** Established and implemented a Quality Assurance System for the first time at Salahaddin University, supported by a DelPhe grant and in partnership with Coventry University (UK).

- 2012** Founded the Erbil Forum for Sustainable Development (With members from Massachusetts University, Oslo School for Architecture, Canadian University in Dubai, Welterhampton University, and Salahaddin University), aimed at supporting the Kurdistan Regional Government (KRG) in sustainable project management.
- 2007** Initiated the development of a large-scale housing project for academic staff in Erbil. Facilitated communication between academics, government officials, and investors from concept to completion. The project resulted in the construction of 1,000 housing units, now known as Zanko 2 Neighborhood.
- 2000** Established and led the first Software Engineering Department in Iraq at Salahaddin University. Oversaw the program from inception through to the graduation of its first cohort in 2004.

BOOK'S REVIEW

2000-2005 All Computer and Mathematics text Books for the Ministry of Education (for example: Introduction to Pascal (Arabic and Kurdish versions), Introduction to MS-Word, Introduction to Computer Systems, Programming in GWBasic,...etc.) , Kurdistan Region, Erbil, Iraq.

AFFILIATIONS

1. IEEE (Institute of Electrical and Electronics Engineering, USA), since 2009. Senior Member.
2. Iraqi Engineers Union, Consultant Engineer, since 1988.
3. Kurdistan Engineers Union, Consultant Engineer, since 1991.
4. Interaction Design Foundation, since 2020.

OTHER ACADEMIC ACTIVITIES

1. Conference General Chair, the 3rd ICEIT International Conference, Salahaddin University-Erbil, October.30-31, 2024.
2. Plenary speaker, The International Conference on Sustainability Systems Development (ICSSD), Organized by Academic and Research Services Sdn. Bhd.- Malaysia, Erbil, Kurdistan, Iraq, 7-8 July 2024.
3. Plenary speaker, The Third Al-Noor International Exhibition for Science and Technology (3ANEST2023), FLU, Erbil, Kurdistan,Iraq. Feb. 28, 2023.
4. Panelist, GIZ Didar event, Erbil, Kurdistan,Iraq.May 25,2022.
5. Panelist, HITEX21.Erbil, Kurdistan,Iraq.June 16,2021.
6. Conference Chair of the first International Conference on Nations under Genocide, Peter Pazmany Catholic University, Budapest, Hungary, April 19-20, 2017.
7. Panelist, The 3rd International Engineering Conference on Developments in Civil and Computer Engineering Applications (IEC2017), Tishk International University & Erbil Polytechnic University, Erbil, Kurdistan Regional Government (KRG) of Iraq, 26 to 27 February 2017.
8. Conference Chair of the first International Conference on Engineering and Innovative Technology, Salahaddin University-Erbil, April 12-14, 2016.

9. Editor-in-Chief of Zanco Journal for Pure and Applied Sciences (the official academic journal of Salahaddin University-Erbil, Scopus Indexed) from 2012 to 2017.
10. Establishment of Erbil Centre for Sustainable Development (With members from Massachusetts University, Oslo School for Architecture, Canadian University in Dubai, Welperhampton University), 2013.
11. Plenary speaker at the 11th Asian University President's Forum (AUPF), Dongseo University, Busan, Korea, October 28-31, 2012.
12. Plenary speaker, Kurdistan-UK Higher Education Conference: Bridging the Knowledge Gap, UK Trade and Investment, 30-31 January 2012, London, (UK).
13. Conference chair of the 4th international scientific conference of Salahaddin University-Erbil, 18-20 October 2011.
14. Conference chair of the 1st International conference on Kurds and Kurdistan in history: Ottoman Empire Era (joint conference with Mardin Urtuklu University), 16-18 April 2013.
15. Cited in the Encyclopedia of Erbil and the Erbil Writers Bibliography.

REFERENCES

1. **Prof. Carl D. Crane**, Center for Intelligent Machines and Robotics (CIMAR), University of Florida, USA
Email: ccrane@ufl.edu, Mobile: +1 352 219 6433
2. **Dr. Dillshad Khidr**, Former Head, Software Engineering Department, Salahaddin University-Erbil, Kurdistan, Iraq
Email: dilshad.bzeni@su.edu.krd, Mobile: +964 750 448 6419
3. **Prof. Shawnim Jalal, PhD**, Former Dean, College of Engineering, Salahaddin University-Erbil, Kurdistan, Iraq, Email: shawnim100@yahoo.com, Mobile: +964 750 470 9424
4. **Prof. Ahmed A. Dezaye, PhD**, Former President, Salahaddin University-Erbil, Kurdistan, Iraq, Email: ahmed.dezaye@su.edu.krd, Mobile: +964 750 448 1025
5. **Former Ministers of Higher Education and Scientific Research**, Kurdistan Regional Government (KRG)
6. **Presidents of Public and Private Universities** in the Kurdistan Region

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