



1. Name and Academic rank:

- Ziad Doughan, Full-time Assistant Professor, Electrical and Computer Engineering Department, BAU, Lebanon. Email: ziaddoughan@yahoo.com Mob: +961 70 185248

2. Education: Degrees, discipline, institution, and date:

- Ph.D., Electrical and Computer Engineering, BAU, 2022
- M.Sc., Electrical and Computer Engineering, BAU, 2016
- B.Sc., Electrical and Computer Engineering, BAU, 2006

3. Academic experience

- Beirut Arab University, 2022 – present, full time, Assistant Professor
- Beirut Arab University, 2020 – 2021, part time, Lecturer
- Beirut Arab University, 2016 – 2019, part time, Instructor

4. Non-academic experience

- Khatib And Alami JV Arabian Construction Company, 2013 – 2022, full time, Cost Control Unit Team Leader
- LACECO Architects & Engineers, 2008 – 2012, full time, Information Systems Engineer
- Ministry of Finance Lebanon, 2006 – 2008, full time, Software Engineer
- Beirut Arab University Alumni, 2006 – 2008, part time, Web Administrator

5. Current membership in professional organizations

- Member in Order of Engineering Lebanon
- Member in the IEEE
- Member in the IEEE-CIS

6. Honors and Awards:

Honors:

- **Coordinator of AITRS Academy**, in accordance with the partnership agreement between AITRS and Beirut Arab University, 2025 – till present.
- **Program Committee Member** in the 22nd International Conference on Artificial Intelligence Applications and Innovations (AIAI) 2026.
- **Program Committee Member** in the 27th International Conference on Engineering Applications of Neural Networks (EANN) 2026.
- **Industrial Relation Chair**, ICABME25 2025: 8th International Conference on Advances in Biomedical Engineering (ICABME25) 2025.
- **Session Chair**, ICABME25 2025: 8th International Conference on Advances in Biomedical Engineering (ICABME25) 2025.
- **Coordinator of Huawei ICT Academy**, in accordance with the partnership agreement between Huawei and Beirut Arab University, 2022 – 2025.
- **Program Committee Member** in the 21st International Conference on Artificial Intelligence Applications and Innovations (AIAI) 2025.
- **Program Committee Member** in the 26th International Conference on Engineering Applications of Neural Networks (EANN) 2025.



- **Honoring Guest in:** Huawei ITC competition Finals, China 2024.
- **Keynote speaker in workshop:** Future of Academia in Light of Artificial Intelligence, presentation Topic: "Applications of AI in Engineering" 2024.
- **Program Committee Member** in the 20th International Conference on Artificial Intelligence Applications and Innovations (AIAI) 2024.
- **Program Committee Member** in the 25th International Conference on Engineering Applications of Neural Networks (EANN) 2024.
- **Plenary Session Chairs, ICABME23 2023:** 7th International Conference on Advances in Biomedical Engineering (ICABME23) 2023.
- **Program Committee Member** in the 19th International Conference on Artificial Intelligence Applications and Innovations (AIAI) 2023.
- **Program Committee Member** in the 24th International Conference on Engineering Applications of Neural Networks (EANN) 2023.
- **Session Chair, ACTEA 2019:** Session chair for the "Transportation" session at the 2019 Fourth International Conference on Advances in Computational Tools for Engineering Applications (ACTEA) 2019.
- **Program Committee Member** in the 27th International Conference on Artificial Neural Networks (ICANN) 2018.

Awards:

- **1st place in IBDA**A competition, AUB 2024
- **1st place in DARE** robotics competition, LAU 2024
- **3rd place in Huawei ITC** competition, Bahrain 2024.
- **1st place in Huawei ITC** competition, Lebanon 2024.
- **United Nations Public Service Award**, United Nations Public Service: Taxpayer service system, Winner of: "United Nations Public Service Award on improving the delivery of services". 2007.

7. Service activities

- 2025-2026 AITRS Project Coordinator-AITRS JV. Beirut Arab University
- 2025-2026 Strategic Plan committee member / KPI monitor-Beirut Arab University
- 2025-2026 Engineering Day committee member-Beirut Arab University
- 2021-2026 ABET advisory board-Beirut Arab University
- 2024-2026 Supervisor of ARC-Lab: Artificial Intelligence and Robotics Lab
- 2024-2025 Graduates studies committee member-Beirut Arab University
- 2024-2025 Supervisor for IEEE-CIS: Computational Intelligence Society
- 2021-2025 Huawei ICT Project Coordinator-Huawei JV. Beirut Arab University
- 2022-2024 Community service committee member-Beirut Arab University
- 2022-2024 Engineering consultancy committee member-Beirut Arab University
- 2021-2024 Advisor for A.R.C.: Artificial Intelligence and Robotics Student Club
- 2021-2022 Research committee member-Beirut Arab University
- 2021-2022 Engineering Day committee member-Beirut Arab University



8. Experience Courses (Undergraduate)

- Artificial Intelligence
- Machine Learning.
- Deep Learning
- Discrete Mathematics / Structures
- Database.
- Programming (I & II).
- Object Oriented Programming
- Data Structures
- Algorithms
- Compiler
- Computer Graphics
- Microprocessor & Microcontroller

9. Experience Courses (Graduate)

- Neural Networks
- Advanced Database Systems
- Advance Computer Control and Robotics
- Data Mining
- Reinforcement Learning
- Cognitive Robotics
- Advanced Computer Graphics
- Advanced Computer Networks

10. Research Interests

- Artificial Intelligence, Machine Learning and Deep Learning
- Natural Language Processing and Large Language Models
- Biomimetic AI systems, Artificial General Intelligence (AGI) and Artificial Super Intelligence (ASI)
- Applied AI in Software, Cybersecurity, Games, and Robotics

11. References:

- Dr. Ahmad El-Hajj ae37@aub.edu.lb (+9613816894)
- Prof. Ziad Osman z.osman@bau.edu.lb (+9613836089)
- Prof. Sobhi Abou Chahin achahine@bau.edu.lb (+9613835178)

12. Rank Link: Assistant Professor

<https://www.bau.edu.lb/Staff/Engineering/Academic>

13. Publications

Journal Publications:

1. Fattoum, Manal K. and El-Halabi, Heba and Ibrahim, Sarah M. and Khatib, Hafez Al and Hajir, Nour Alhoda M. and Shouman, Habib El Rahman and **Doughan, Ziad** "AI-Driven



- RF Detection of Solutes in Water," in *IEEE Access*, vol. 14, pp. 32080-32091, 2026, doi: 10.1109/ACCESS.2026.3668747
2. **Doughan, Ziad**; Itani, Sari; and Al Mubasher, Hadi (2025) "AI IN SOCIETY: A REGULATORY FRAMEWORK FOR RESPONSIBLE INTEGRATION," *BAU Journal - Science and Technology*: Vol. 7: Iss. 1, Article 3. DOI: <https://doi.org/10.54729/2959-331X.1175>
 3. **Z. F. Doughan** and S. S. Itani, "RDDA: Rectified Discriminatory Delta-Adjust," in *IEEE Access*, vol. 13, pp. 207838-207855, 2025, doi: 10.1109/ACCESS.2025.3641537
 4. **Z. F. Doughan** and S. S. Itani, "Delta-Adjust: Minimum Distance Interpolation," in *IEEE Access*, vol. 13, pp. 139377-139387, 2025, doi: 10.1109/ACCESS.2025.3596384
 5. **Z. Doughan**, S. Itani and S. Itani, "ArabSis: Arabic Corpus Sentiment Analysis," in *IEEE Access*, vol. 13, pp. 81083-81095, 2025, doi: 10.1109/ACCESS.2025.3567755
 6. **Doughan Z**, Mneimneh I, Nakouzi Z, Al Khaib N, Damaj S, Chaaban J, Mrad H, and Itani S "Cropsync: Ai-Powered Sustainable Crop Management" *BAU Journal - Science and Technology*. 2024, Vol. 6: Iss. 1, Article 4. DOI: <https://doi.org/10.54729/2959-331X.1145>
 7. Zaylaa A, Haidar I, **Doughan Z**, Moumnieh M, Mrad H, and Haidar A M, "Designed For Limb Loss: An Artificial Intelligence-Based Bionic Prosthetic Arm Transition From Simulation To Reality" *BAU Journal - Science and Technology*. 2024, Vol. 6: Iss. 1, Article 2. DOI: <https://doi.org/10.54729/2959-331X.1150>
 8. **Doughan Z**, Al Mubasher H, Sliman L, Haidar A. A Multiple Criteria Decision Making-Based Recommender System for Neural Network Learning Rate Initialization. Available at SSRN 4500557. 2023.
 9. **Z. Doughan**, R. Kassem, A. M. El Hajj, A. M. Haidar "Artificial Neural Network Vision: Between Myth and Reality", Theme Issue: Science Fiction or Fact? *IEEE Potentials*, 2023.
 10. Haidar I, **Doughan Z**. "A Novel Specialized Search Engine for Ai-Models and Their Comparison". *BAU Journal-Creative Sustainable Development*. 2023;4(2):2.
 11. **Z. Doughan**, H. Al Mubasher, M. Bizri, and A. M. Haidar "The Metaverse: A Virtual World in the Palm of Your Hand", *BAU Journal - Science and Technology*, 2022.
 12. **Z. Doughan**, R. Kassem, A. M. El Hajj, A. M. Haidar "Novel Preprocessors for Convolution Neural Networks", *IEEE Access*, April 2022, DOI: 10.1109/ACCESS.2022.3163405

Conference Proceedings:

1. Mahasin El Dimassi, Ziad Osman, Alaa Daher, **Ziad Doughan**, Mazen Jabre, Khodor Ozoor "Detection of Parkinson's Disease Through Voice Analysis Using Shimmer and Jitter Techniques with Machine Learning(SVM)" 1st International Conference on Emerging Innovation and Digital Technology (ICEIDT 2025), Maldives, 2025.
2. **Z. Doughan** et al., "Neural Network Based Firefighters Monitoring and Tracking System," 2025 Eighth International Conference on Advances in Biomedical Engineering (ICABME), Debbieh, Lebanon, 2025, pp. 1-6, doi: 10.1109/ICABME66883.2025.11211561
3. I. Haidar, S. Itani, A. Kaouk, A. Kaddah, D. A. Alloul and **Z. Doughan**, "Urban Air Quality Analysis Using Ensemble Learning," 2025 Eighth International Conference on



- Advances in Biomedical Engineering (ICABME), Debbieh, Lebanon, 2025, pp. 1-6, doi: 10.1109/ICABME66883.2025.11211707
4. **Z. Doughan**, R. Hammoud, M. -D. Ghalayini, D. Darweesh, O. E. H. Chehade and S. Itani, "Machine Learning Driven Symptoms Diagnosis System," 2025 Eighth International Conference on Advances in Biomedical Engineering (ICABME), Debbieh, Lebanon, 2025, pp. 1-6, doi: 10.1109/ICABME66883.2025.11211623
 5. M. K. El Dimassi, Z. A. Osman, A. Daher and **Z. Doughan**, "Analysis of Brain (EEG) and Muscle (EMG) Signaling Features to Characterize the Stages of Parkinson's Disease Using ANFIS," 2025 Eighth International Conference on Advances in Biomedical Engineering (ICABME), Debbieh, Lebanon, 2025, pp. 01-08, doi: 10.1109/ICABME66883.2025.11211552
 6. Y. H. Abbas, **Z. Doughan**, I. M. Haidar, M. E. Bizri and A. M. Haidar, "Smarter Spaces: AI-Powered Indoor Positioning with Wi-Fi," 2025 International Conference on Smart Applications, Communications and Networking (SmartNets), Istanbul, Turkiye, 2025, pp. 1-5, doi: 10.1109/SmartNets65254.2025.11106791
 7. **Doughan, Z.**, Itani, S. (2024). Machine Unlearning, A Comparative Analysis. In: Iliadis, L., Maglogiannis, I., Papaleonidas, A., Pimenidis, E., Jayne, C. (eds) Engineering Applications of Neural Networks. EANN 2024. Communications in Computer and Information Science, vol 2141. Springer, Cham. https://doi.org/10.1007/978-3-031-62495-7_42
 8. H. S. Bazzi, A. H. Nassar, I. M. Haidar, A. M. Haidar and **Z. Doughan**, "ResNet-Based Detection of SYN Flood DDoS Attacks," 2024 IEEE International Conference on Computing, Power and Communication Technologies (IC2PCT), Greater Noida, India, 2024, pp. 1142-1147, doi: 10.1109/IC2PCT60090.2024.10486707.
 9. Al Mubasher H, **Doughan Z**, Sliman L, Haidar A. "A Novel Neural Network-Based Recommender System for Drug Recommendation". In International Conference on Engineering Applications of Neural Networks 2023 Jun 7 (pp. 573-584). Cham: Springer Nature Switzerland.
 10. **Z. Doughan**, H Al Mubasher, R Kassem, AM El-Hajj, AM Haidar, L Sliman "Logic-Based Neural Network for Pattern Correction", IEEE International Conference on Smart Systems and Power Management (IC2SPM), Beirut, Lebanon, November 2022.
 11. **Z. Doughan**, R. Kassem, A. M. El Hajj, A. M. Haidar "Logic-Based Neural Network for Image Compression Applications", 3rd IEEE Middle East & North Africa COMMUNICATIONS Conference (MENACOMM), Agadir, Morocco, December 2021, DOI: 10.1109/MENACOMM50742.2021.9678278
 12. **Z. Doughan**, W. Itani, A. M. Haidar "Advanced Biomimetic Cells Architecture for Parallel Operations in Artificial Intelligence", 4th International Conference on Advances in Computational Tools for Engineering Applications (ACTEA), Zouk Mosbeh, Lebanon, July 2019, DOI: 10.1109/ACTEA.2019.8851116
 13. H. Koleilat, **Z. Doughan**, Y. Attallah "Automatic Radial Routing Protocol for Public Transport System", 4th International Conference on Advances in Computational Tools for Engineering Applications (ACTEA), Zouk Mosbeh, Lebanon, July 2019, DOI: 10.1109/ACTEA.2019.8851091



14. **Z. Doughan**, W. Itani, A. M. Haidar "Biomimetic Cells: A New Frontier in Brain Informatics", IEEE International Multidisciplinary Conference on Engineering Technology (IMCET), Le Commodore Hotel, Hamra, Beirut, Lebanon, November 2018, DOI: 10.1109/IMCET.2018.8603044
15. **Z. Doughan**, W. Itani, A. M. Haidar "Bio-mimetic Approach in Digital Artificial Neuroscience", 3rd International Conference on Advances in Computational Tools for Engineering Applications (ACTEA), Zouk Mosbeh, Lebanon, July 2016, DOI: 10.1109/ACTEA.2016.7560120

14. Professional development activities in the last years

Certificates:

- Team-Based Learning: An Effective Tool for Student Engagement, BAU, 2024
- Huawei HCIA-AI Artificial Intelligence V3.5, Huawei, 2023.
- Reinforcement Learning Course, DECSAI, Universidad de Granada, 2023.
- Deep Learning: a Hands-on Introduction, MaLGa, Università di Genova, 2022
- Computer Vision Crash Course, MaLGa, Università di Genova, 2022
- Fundamentals of Deep Learning, NVIDIA DLI, 2022
- R Programming, Course, The Johns Hopkins University, 2022.
- Python for Data Science, Specialization, Datacamp, 2021 (4 Courses):
 - Python Data Science Toolbox Part 2.
 - Python Data Science Toolbox Part 1.
 - Intermediate Python.
 - Introduction to Python.
- Deep Learning, Specialization, Deeplearning.ai, 2020 (5 Courses):
 - Sequence Models.
 - Structuring Machine Learning Projects.
 - Convolutional Neural Networks.
 - Improving Deep Neural Networks.
 - Neural Networks and Deep Learning.
- Machine Learning, Course, Stanford Online, 2020.
- Cisco CCNA 4.1, Cisco, 2008 (4 Courses).

15. Peer-reviewer:

- Engineering Applications of Artificial Intelligence, ELSEVIER Journal.
- 22nd International Conference on Artificial Intelligence Applications and Innovations (AIAI) 2026.
- 27th International Conference on Engineering Applications of Neural Networks (EANN) 2026.
- 21st International Conference on Artificial Intelligence Applications and Innovations (AIAI) 2025.
- 26th International Conference on Engineering Applications of Neural Networks (EANN) 2025.
- 8th International Conference on Advances in Biomedical Engineering (ICABME25) 2025.



- 20th International Conference on Artificial Intelligence Applications and Innovations (AIAI) 2024.
- 25th International Conference on Engineering Applications of Neural Networks (EANN) 2024.
- 19th International Conference on Artificial Intelligence Applications and Innovations (AIAI) 2023.
- 24th International Conference on Engineering Applications of Neural Networks (EANN) 2023.
- International Conference on Smart Systems and Power Management (IC2SPM) 2022.
- International Conference on Artificial Neural Networks (ICANN) 2018.

16. Soft skills:

- Skills: Project Management, Leadership, Interpersonal Communication, Artificial Intelligence, Data Analysis
- Concepts: OOP, UML, PMP, Agile, SCRUM
- Programming: VS.Net, JAVA, C++, HTML, Python
- Databases: SQL Server, MS Access, Java DB
- Systems: Windows, DOS, Cisco
- Software: MS Office, MS Visio, MS Project, Primavera, SAP