

# Amr ABDELBARI, Assistant Professor

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## LINKS

[LinkedIn](#) , [Google scholar](#) , [ORCID](#) , [Github](#) , [NEU Staff page](#)

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## PROFILE

I am an interdisciplinary researcher and educator whose work bridges **artificial intelligence, signal processing, finance, and robotics** to create intelligent systems that learn, decide, and act across both digital and physical worlds. With experience spanning **AI-driven trading systems, wireless communication design (NOMA, OTFS, Massive MIMO), and autonomous robotics** , I focus on transforming complex theories into practical technologies that improve efficiency, adaptability, and real-world decision-making. As **Head of the Information Systems Engineering Department at Near East University** , I lead initiatives that unite academic rigor with innovation—mentoring students, developing intelligent robotic systems, and exploring how algorithms can power markets, machines, and communication networks alike. My journey connects these diverse domains through a single vision: advancing adaptive intelligence that makes technology more human, autonomous, and impactful.

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## EMPLOYMENT HISTORY

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|------------------------|--|----------------------------------|
| Sep 2025 —<br>Present  | <b>Head of Information Systems Engineering Department, Near East University (NEU)</b>  | Lefkosa, KKTC, Mersin 10, Turkey |
|                        | Introducing the AI and Informatics Faculty within NEU requires lots of efforts. I have been nominated for Data analytics Dept. (Feb. 2025) then Information Systems Dept. (Sep. 2025) to be more suitable for my expertise where I can connect the real world with the technologies to build AI driven application, robotics, and systems.   |                                  |
| Sep 2024 —<br>Present  | <b>Assistant Professor, Near East University (NEU)</b>   | Lefkosa, KKTC, Mersin 10, Turkey |
|                        | Mentoring real life projects within 2nd, 3rd year AI and Software engineering courses that solve jobs-to-do like what should I eat today?, AI in cybersecurity, How many calories in this meal?, Train/interview me, chess game using AI and more. Working on mathematical analysis of modulation schemes and multiple access techniques for wireless communications like 64 QAM, NOMA, OTFS, and Massive MIMO to proof the performance of novel technologies. Finally, teaching the new generations within the university how to work on real projects using AI techniques and particularly, generative AI in wide range of real application starting from robotics, logic design, speech processing, and software testing. |                                  |
| Sep 2023 —<br>Aug 2024 | <b>Lecturer, Near East University (NEU)</b>  | Lefkosa, KKTC, Mersin 10, Turkey |
|                        | I am working as a University senior Lecturer (with PhD) in the Artificial Intelligence Engineering Department and with AI and Robotics Institute. Courses include programming, Object oriented, Algorithms and AI agents and reasoning for undergraduate students. Also software requirement for graduate students.<br>On the research side, I am trying to apply AI in wireless communications, signal processing, robotics and finance market.   |                                  |
| Mar 2022 —<br>Present  | <b>Lecturer, Course Khana</b>  | Istanbul, Turkey                 |
|                        | I teach undergraduate courses in electrical and electronic engineering, computer engineering, and other related departments. The courses include an introduction to electronics, Electronics II, signal processing, wireless communications, digital system design, and communications circuits.   |                                  |

Also, I teach general undergraduate courses for all engineering students e.g. calculus, numerical, physics, and general mathematics.

I use a variety of educational technologies e.g. Zoom, and online whiteboard.

Jul 2023 –  
Oct 2024

### **Head of Software Engineering, RoboLabs**

Istanbul, Turkey

Software department is responsible for firmwares deployed in the subsystems e.g. ESP and the main controllers e.g. NVIDIA Jetson. I design the software architecture, lead the system design process, manage the work load within the department, and collaborate with other departments.

Jul 2022 –  
Jun 2023

### **Software Engineer, RoboLabs**

Istanbul, Turkey

I develop the internal controlling systems of disinfection automated robots named C-bot. C-bot has different operating modes including Autonomous, Manual control, Timed disinfection, and QR following. Also, C-bot has a variety of subsystems which responsible for a different parts of the robot e.g. battery system, UVC system, and moving system. We design and implement every part and connect them to the main controllers to handle each aforementioned operating mode properly. I am responsible for identifying and solving design issues related to the control and communications within the robot system to deliver a high-performance, flawless, and user-friendly controlling system.

Sep 2021 –  
Oct 2022

### **Quantitative Developer and Co-Founder, Oxyinance Technologies**

Istanbul, Turkey

I built and developed trading systems using mathematical and AI models. Automated trading systems demand high performance and ultra-low latency operations that interact (buy, sell, hold) a variety of financial instruments e.g. Stocks, FX, and crypto. I study and make deep research on both theoretical and practical models that are based on fundamentals and technicals to develop winning trading strategies. These strategies are then converted onto executed algorithms using Python, C/C++, and MATLAB computer languages.

Feb 2019 –  
Aug 2021

### **Research Assistant, Near East University (NEU)**

Lefkosa, KKTC, Mersin  
10, Turkey

I contributed to teaching a wide range of undergraduate courses and labs in electronics, AI, signal processing, and computer vision using modern learning tools like Google Classroom and Prezi. My research focused on array signal processing, DOA estimation, and advanced wireless communication techniques such as NOMA and MIMO, resulting in several IEEE and Springer-indexed publications. Additionally, I reviewed MSc and PhD theses for the Graduate School and developed the university's official LaTeX thesis template to support graduate research.

Jul 2015 –  
Aug 2015

### **Electrical Engineer, Construction project**

Doha, Qatar

Responsible and manage the electrical works in a construction site by deploying the civil and electrical draws and maintaining three teams of workers.

Jul 2010 –  
Feb 2011

### **Website Designer, Synergy Sohag Center**

Sohag, Egypt

Design and program Websites for a training center in variety of fields e.g. Bussniss development, Microsoft office, programming and ICDL official examiner under a contract with the ministry of education.

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## **EDUCATION**

Jan 2018 –  
Jan 2021

### **PhD in Electrical and Electronics Engineering, Near East University (NEU)**

Lefkosa, KKTC, Mersin  
10, Turkey

- Thesis: A. Abdelbari, "On the Localization and Detection of Multiple Signals," Ph.D. Thesis, Near East University, Nicosia, Cyprus, 2021.
- Link: <http://docs.neu.edu.tr/library/9451044175.pdf>

	• GPA “4.00”.	
Jan 2016 — Jan 2018	<b>MSc in Electrical and Electronics Engineering, Near East University (NEU)</b>	Lefkosa, KKTC, Mersin 10, Turkey
	<ul style="list-style-type: none"> <li>• Thesis: A. Abdelbari, “Direction of Arrival Estimation of Wideband RF Sources,” M.Sc. Thesis, Near East University, Nicosia, Cyprus, 2018.</li> <li>• Link: <a href="http://docs.neu.edu.tr/library/6718703723.pdf">http://docs.neu.edu.tr/library/6718703723.pdf</a></li> <li>• GPA: “3.71”.</li> </ul>	
Jan 2009 — Jan 2014	<b>BSc in Electrical and Electronics Engineering, Faculty of Engineering, Sohag University</b>	Sohag, Egypt
	<ul style="list-style-type: none"> <li>• Graduation project “Design Of RFID-based Security System”. I designed the charging unit and analog/digital converter (ADC) in passive card using VLSI CAD.</li> <li>• GPA “2.68” (74%).</li> </ul>	

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<b>SKILLS</b>	Python	Expert	ROS2	Skillful
	C++	Experienced	Matlab	Expert
	VHDL	Skillful		

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## RESEARCH & PUBLICATIONS

### Journal Articles

- 1.B. Bilgehan, A. Abdelbari, “Fast detection and DOA Estimation of The Unknown Wideband Signal Sources,” in *Int J Commun Syst* , vol. 32, no. e3968, 2019, doi: <https://doi.org/10.1002/dac.3968>
- 2.H. Haci and A. Abdelbari, “Throughput Enhanced Scheduling (TES) Scheme For Ultra-Dense Networks,” in *Int J Commun Syst* , vol. 33, no. e4229, 2020, doi: <https://doi.org/10.1002/dac.4229>
- 3.A. Abdelbari and B. Bilgehan, “A Probabilistic-Based Approach for DOA Estimation and Localization of Multiple Sources,” in *Int J Commun Syst* , vol. 33, no. e4425, 2020, doi: <https://doi.org/10.1002/dac.4425>
- 4.A. Abdelbari and B. Bilgehan, “ *PESO* : Probabilistic evaluation of subspaces orthogonality for wideband DOA estimation” in *Multidim Syst Sign Process* , 2021, doi: <https://doi.org/10.1007/s11045-020-00757-6>
- 5.A. Abdelbari and B. Bilgehan, “Precoding Design for Massive MIMO Channels with Imperfect CSI Based On Supervised Dimension Reduction Method” in *Int J Commun Syst* , vol. 38, no. e70223, 2025, doi: <https://doi.org/10.1002/dac.70223>

### Conferences

- 1.H. Haci and A. Abdelbari, "A Novel Scheduling Scheme for Ultra-Dense Networks," 2019 International Symposium on Networks, Computers and Communications (ISNCC), Istanbul, Turkey, 2019, pp. 1-6, doi: <https://doi.org/10.1109/ISNCC.2019.8909118>
- 2.A. Abdelbari, H. Haci, “Fuzzy Logic-Based User Scheduling Scheme for 5G Wireless Networks and Beyond,” 10th International Conference on Theory and Application of Soft Computing, Computing with Words and Perceptions - ICSCCW-2019.

Advances in Intelligent Systems and Computing, vol. 1095. Springer, Cham, doi: [https://doi.org/10.1007/978-3-030-35249-3\\_55](https://doi.org/10.1007/978-3-030-35249-3_55)

- 3.B. Bilgehan, A. Abdelbari, "A Novel DOA Estimation Method for Wideband Sources Based on Fuzzy Systems," 10th International Conference on Theory and Application of Soft Computing, Computing with Words and Perceptions - ICSCCW-2019. Advances in Intelligent Systems and Computing, vol. 1095. Springer, Cham, doi: [https://doi.org/10.1007/978-3-030-35249-3\\_52](https://doi.org/10.1007/978-3-030-35249-3_52)
- 4.A. Abdelbari and H. Haci, "An Opportunistic User Scheduling Scheme for Ultra-Dense Wireless Networks," 2019 11th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Turkey, 2019, pp. 1080-1084, doi: <https://doi.org/10.23919/ELECO47770.2019.8990469>
- 5.A. Abdelbari and B. Bilgehan, "A Novel DOA Estimation Method of Several Sources for 5G Networks," 2020 International Conference on Electrical, Communication, and Computer Engineering (ICECCE), Istanbul, Turkey, 2020, pp. 1-6, doi: <https://doi.org/10.1109/ICECCE49384.2020.9179306>
- 6.N. Naser and A. Abdelbari, "Estimation of Global Solar Radiation using Back Propagation Neural Network: A case study Tripoli, Libya," 2020 International Conference on Electrical, Communication, and Computer Engineering (ICECCE), Istanbul, Turkey, 2020, pp. 1-5, doi: <https://doi.org/10.1109/ICECCE49384.2020.9179201>
- 7.A. Abdelbari and B. Bilgehan, "A Novel Precoding Design For Frequency-Selective Massive MIMO Channel," in 2022 International Conference on Artificial Intelligence of Things and Crowdsensing (AIoTCs), Nicosia, Cyprus, 2022, pp. 29-32, doi: <https://doi.org/10.1109/AIoTCs58181.2022.00012>
- 8.A. Abdelbari, "MDA: Multiple Decentralized Anchors for Hiding Communication Information," in 2022 International Symposium on Multidisciplinary Studies and Innovative Technologies (ISMSIT), Ankara, Turkey, 2022, doi: <https://doi.org/10.1109/ISMSIT56059.2022.9932770>

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## PROFESSIONAL CERTIFICATES & COURSES

Oct 2025	IBM AI Product Manager Certificate, IBM
Oct 2025	Microsoft AI Product Manager Certificate, Microsoft
Feb 2025	FPGA Softcore Processors and IP AcquisitionFPGA Softcore Processors and IP Acquisition, University of Colorado Boulder
Jan 2025	Hardware Description Languages for FPGA Design, University of Colorado Boulder
Dec 2024	Google AI Essentials, Google
Jul 2023	ROS2 Nav2 [Navigation 2 Stack] - with SLAM and Navigation, Udemy
May 2023	ROS2 For Beginners (ROS Foxy, Humble - 2023), Udemy

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<b>LANGUAGES</b>	English	Highly proficient	Arabic	Native speaker
	Turkish	A2		