

Ahmed Saad | CV

Personal Data

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Place and Date of Birth: Egypt | March 28, 1979

Work Address: Mechatronic Engineering Department, Assiut University, Assiut, Egypt.

Google scholar: https://scholar.google.com.eg/citations?hl=ar&user=jTmPpAwA AAAJ&view_op=list_works

Scopus Scholar: <https://www.scopus.com/authid/detail.uri?authorId=57188822236>



Research Interests

- Mechatronics system
- Mobile robot
- Industrial Process control
- Measuring and instrumentation
- Automatic control
- Electro-Hydraulic Control System.
- Artificial intelligence techniques and IoTs

Education

2009-2012 **PhD** in Mechatronics Engineering, **Southern Federal University**, Russia

Thesis: "Control of ground robots in nondeterministic environments with obstacles of a practical class"

2003-2007 **M. Sc.** in Mechanical Engineering, **Assiut University**, Egypt

Thesis: "Haptic Force Display System for Virtual- Reality Surgery Simulators"

1996-2001 **B. Sc.** in Mechanical Engineering, **Assiut University**, Egypt

Cumulative Average Grade: Very good with honor's degree

Employment History:

2022-Present	Acting Dean of Egyptian-German College of Technology in Assiut MISR International Technological University, Egypt
2021-Present	Project Director, ITEC Assiut , Education Development Fund, Egyptian Council of Ministers, Egypt
2020-Present	Associate Professor, Mechatronic Eng. Dept. , Assiut University, Egypt
2020-2021	Associate Professor , Mechanical Eng. Dept., Assiut University, Egypt
2020-2021	Head of R&D Dept., ITEC Assiut , Education Development Fund, Egyptian Council of Ministers, Egypt
2018 - 2020	Assistant Professor , Mechanical Eng. Dept., Zarqa University, Jordan
2012 - 2018	Assistant Professor , Mechanical Eng. Dept., Assiut University, Egypt
2014 - 2017	Visiting lecturer , Faculty of Engineering., Minia University, Egypt
2013 - 2016	Head of R&D Dept. , Integrated Technology Transfer Unit (ITTU), Assiut University, Egypt
2009-2012	PhD. student , Department of Mechatronics and Robotics, Southern Federal University, Russia.
2007 - 2008	Assistant Lecturer , Mechanical Eng. Dept., Assiut University, Egypt.
2004- 2007	Demonstrator , Mechanical Eng. Dept., Assiut University, Egypt.

Courses Taught

Undergraduate courses

- Automatic Control
- Mechatronics
- Mechatronics System Design
- Measurements and Transducers
- Creative thinking skills
- Dynamics
- Computers and Programming
- Programmable Logic Controllers
- Mechatronics Laboratory

Graduate courses

- Advanced Topics in Mechatronics
- Mobile Robot Motion Control
- Advanced Topics in Automatic Control

Publications

Journal Papers

1. Abdel-Gawad A. Abdel-Samei, Abdel-Salam Shaaban, Ayman M. Brisha, Fathi E. Abd El-Samie, **Ahmed S. Ali**. *EOG acquisition system based on ATmega AVR microcontroller*. Journal of Ambient Intelligence and Humanized Computing, 2023, <https://doi.org/10.1007/s12652-023-04622-9>
2. Abdel-Gawad A. Abdel-Samei, **Ahmed S. Ali**, Fathi E. Abd El-Samie et al. Efficient Classification of Horizontal And Vertical EOG Signals For Human Computer Interaction, 02 June 2021, **PREPRINT (Version 1)** available at Research Square . <https://doi.org/10.21203/rs.3.rs-471385/v1>
3. Sharkawy, A. N., Ali, M. M., Mousa, H. H., **Ali, A. S.**, Abdel-Jaber, G. T., Hussein, H. S., ... & Ismeil, M. A. (2023). Solar PV Power Estimation and Upscaling Forecast Using Different Artificial Neural Networks Types: Assessment, Validation, and Comparison. *IEEE Access*, 11, 19279-19300.
4. A.-N. Sharkawy, M. Ali, H. Mousa, **A. Ali**, and G. Abdel-Jaber, "Machine learning method for solar PV output power prediction," *SVU Int. J. Eng. Sci. Appl.*, vol. 3, no. 2, pp. 123–130, Dec. 2022, <https://doi.org/10.21608/SVUSRC.2022.157039.1066>
5. A.-N. Sharkawy, M. M. Ali, H. H. H. Mousa, **A. S. Ali**, and G. T. Abdel-Jaber, "Short-term solar PV power generation day-ahead forecasting using artificial neural network: Assessment and validation," *Int. J. Robot. Control Syst.*, vol. 2, no. 3, pp. 562–580, Sep. 2022, <https://doi.org/10.31763/IJRCS.V2I3.780>
6. Moaaz, A. O., **Ali, A. S.**, Ghazaly, N. M., & Makrahy, M. M. (2022). Performance Evaluation of Semi-Active Suspension for Passenger Vehicle through Skyhook, Groundhook and Hybrid Control Strategies. *International Journal of Vehicle Structures and Systems*, 14(5), 572–579. <https://doi.org/10.4273/ijvss.14.5.04>
7. Shaaban, Abdel-Salam, **Ahmed S. Ali**, and Fathi E. Abd El-Samie. "Image-Guided Flexible Needle Based on Robotic System." *Design Engineering* (2021): 2390-2398.

8. Abdel-Gawad A. Abdel-Samei, **Ahmed S. Ali**, Fathi E. Abd El-Samie, Ayman M. Brisha., "Design of a Real-Time EOG Signal Acquisition System", *Design Engineering*, pp.10585-10595,2021.
9. Z. A. Alrowaili, M. M. Ali, A. Youssef, H. H. H. Mousa, **Ahmed. S. Ali**, G. T. Abdel-Jaber, et al., "Robust adaptive HCS MPPT algorithm-based wind generation system using model reference adaptive control", *Sensors*, vol. 21, no. 15, pp. 5187, Jul. 2021.
10. Ahmad O Moaaz, **Ahmed S Ali**, Nouby M Ghazaly, "Investigation of Anti-Lock Braking System Performance Using Different Control Systems", *International Journal of Control and Automation Vol 13, No 1*, pp. 137-153, 2020
11. Mustafa M Ali, Abdel - Raheem Youssef, **Ahmed S Ali**, GT Abdel - Jaber," Variable step size PO MPPT algorithm using model reference adaptive control for optimal power extraction", *International Transactions on Electrical Energy Systems Vol 30, No 1*, pp. 1-20, 2020
12. Mustafa M Ali, A Youssef, **Ahmed S Ali**, Gamal T Abdel-Jaber," Comparative study of different pitch angle control strategies for DFIG based on wind energy conversion system", *International Journal of Renewable Energy Research Vol 9, No 1*, pp. 157-163, 2019
13. Ghazaly, N.M, Ahmed, A.E.-N.S, **Ahmed S.Ali**. and El-Jaber G.T.A, "H ∞ control of active suspension system for a quarter car model", *International Journal of Vehicle Structures and Systems Vol 8, No 1*, pp. 35-40, 2016.
14. Rana M. Mostafa, **Ahmed S. Ali**, Abo baker A. Nasr, " power regulation for variable speed variable pitch HAWT pitch and torque control Strategy", *Research Journal of Applied Sciences, Engineering and Technology 12 (3)*, 366-374, 2016.
15. A. K. M. Hassan, H. Hasan-Ali, S. R. Demetry, R. Refaat, and S. A. Ahmed, "Early sheath removal after percutaneous coronary intervention using Assiut Femoral Compression Device is feasible and safe. Results of a randomized controlled trial," *Egypt. Hear. J.*, vol. 67, no. 1, pp. 69–77, 2015.

16. A. K. M. Hassan, H. Hasan-Ali, and S. A. Ahmed, "A new femoral compression device compared with manual compression for bleeding control after coronary diagnostic catheterizations," *Egypt. Hear. J.*, vol. 66, no. 3, pp. 233–239, 2014.
17. M. A. Hussein, S. A. Ahmed, F. A. Elmisery, and R. Mostafa, "Motion Control of Robot by using Kinect Sensor," *Res. J. Appl. Sci. Eng. Technol.*, vol. 8, no. 11, pp. 1384–1388, 2014.
18. Mohamoud A. Hussein, Ahmed S. Ali, A. B. Sharkawy and Abdelfatah M. Mohamed. "Haptic Control Development of Robotic Arm", *International Journal of Control, Automation and Systems* Vol.3 No.3 July 2014
19. Ahmed. S. Ali. The control algorithm for mobile robot motion in an uncertain environment // *Proceedings of the Kabardino-Balkar Scientific Center, RAS*, № 1(39). PP. 9 – 14, 2011. (In Russian)
20. Pshikhopov V. Kh., Ahmed. S. Ali. Avoidance local minima problems for the robot motion in an uncertain environment // *News of higher educational institutions. The North Caucasian region. Engineering sciences*. № 6(164). pp. 26 – 31, 2011. (In Russian)
21. Ahmed. S. Ali, R. V. Fedorenko, V. A. Krukhmalev. Control system for an autonomous wheeled robot SKIF-3 in nonformalized environments // *Proceedings of the SFU. Engineering. Special Issue "Advanced Systems and Control Problems* № 3(104), pp. 132 – 143, 2010. (In Russian)

Conference papers

22. Abdel-Salam Shaaban, **Ahmed S Ali**, R Mostafa, Fathi E Abd El-Samie, "Design and Implementation of Needle Steering System", 2021, 11th IEEE International Conference on Control. <https://doi.org/10.1109/ICCSCE52189.2021.9530973>
23. Abdel-Raheem Youssef, Mustafa MM Ali, GT Abdel-Jaber, **Ahmed S. Ali**, "Control of wind turbine for Variable Speed Based on auto-tuning Fuzzy-PI Controller", *IEEE Conference on Power Electronics and Renewable Energy*
24. Rana M. Mostafa, **Ahmed S. Ali**, Control of a Variable Speed Horizontal Axis Wind Turbine based on Adaptive Nonlinear controller", *2nd International Conference on Automation, Control and Robots (ICACR 2018, October 12–*

- 14, 2018, Bangkok, Thailand)
25. Mohamed H. Siliman, **Ahmed S. Ali**, *Saleh abo-Elfadl*. "Modeling and Simulation of the Common Rail Fuel Injection System of the Diesel Engine", 13th International Computer Engineering Conference ICENCO 2017
 26. Ibrahim, Khalil Ghazaly, Nouby and **Ahmed S. Ali**. Simulation Control of an Active Suspension System Using Fuzzy control & H_{∞} Control Methods, The 16th International Conference on Control, Automation and Systems (HICO, Gyeongju, South Korea October 16~19, 2016)
 27. Ibrahim, Khalil, and **Ahmed S. Ali**, "Development a force feedback control of robot manipulator." In Control, Automation and Robotics (ICCAR), 2016 ,2nd International Conference on, pp. 34-37. IEEE, 2016.
 28. V. K. Pshikhopov and **Ahmed S. Ali**, "Hybrid motion control of a mobile robot in dynamic environments," 2011 IEEE Int. Conf. Mechatronics, pp. 540–545, 2011.
 29. **Ahmed S. Ali** and Pshikhopov v Kh, "Motion control of Differential Wheeled Mobile Robot in Unknown Environments," in fifth Assiut University Int. Conf. on Mech. Eng. Advanced Tech for indust.prod., 2010, vol. 15, pp. 335–342.
 30. Pshikhopov V.Kh., **Ahmed. S. Ali**, Motion control of differential wheeled mobile robot skif-3 in unknown environments // In the proceedings of 5th Assuit International conference on mechanical engineering advanced technology for industrial production (MEATIP5). Assiut. Egypt. 29-31. March. 2011. PP. 335-342.
 31. **Ahmed. S. Ali**, Evaluation of methods for constructing the trajectories of autonomous mobile robot // IXX Proceedings of the International Scientific and Technical Seminar. September 2010, Alushta, p. 24.
 32. Pshikhopov V.Kh., **Ahmed. S. Ali**. Control of mobile robots in an uncertain environment with closely spaced convex obstacles // Proceedings of the Scientific and Technical Conference « Artificial Intelligence and control ». 2011. pp. 186 – 189.
 33. Pshikhopov V.Kh., **Ahmed. S. Ali**, Escaping the local minima based on position-trajectory control robot motion in an uncertain environment // Russian Scientific School "Microelectronic information control systems and complexes" (Novocherkassk, 2011r.). pp. 175 – 179.

34. Pshikhopov V.Kh., **Ahmed S. Ali**. Hybrid control algorithm of mobile robot motion in unknown environments // Proceedings of the International Conference "Automation and Intelligent Systems and the Environment"– 2010 г.). pp. 31 – 34.
35. **Ahmed S. Ali**, M. E. H. Eltaib, and A. A. Abo-ismail, "Mechatronics Force Display system for Virtual Surgery Simulator," in International Workshop on Mechatronics Education, 2006.
36. **Ahmed S. Ali**, M. E. H. Eltaib, and A. A. Abo-ismail, "Haptic Force Display System for Virtual Reality," in Fourth Assiut University Int. Conf. on Mech. Eng. Advanced Tech for indust.prod., 2006, vol. 14, pp. 497–503

Published books:

- Robot control in the medium with obstructions as part of "Control instrumentation and automatics: service and repair" (in Russian) ISSN 2074-7969, 2014
- Mechatronic Engineering Experimentation Faculty of Engineering, Assiut University

Research activities as a reviewer

- Asian Journal of Control
- Journal of Engineering Science
- Assiut University Int. Conf. on Mech. Eng. Advanced Tech for indust.prod

Supervisor (selected)

1. Abdelsalam Shaaban Abdelsalam, Phd. thesis "Development of Image Guidance System Based on Robotic System", Beni-Suef University, 2018 – 2022.
2. Abdel-Gawad Abdrabouh Abdel-Samei, Phd. thesis "Acquisition and Classification of Electrooculogram Signals for the Handicapped", Beni-Suef University, 2019 – 2022.
3. Rana Mamdouh Mostafa M.Sc. thesis "Pitch and torque control for variable speed horizontal axis wind turbine", Assiut University 2013- 2016
4. Abd El-Nasser Sharkawy Ahmed M.Sc. thesis "Intelligent Control on Active Suspension System", South Valley University 2013-2016
5. Abdallah Farrage Abd EL-Rahiem M.Sc. thesis "Experimental Evaluation of an Adaptive Fuzzy Control Scheme for Robotic manipulators", Assiut University, 2010-2014

6. Mohammed Ali Hussein M.Sc. thesis “Motion Control of Robot by Using Kinect Sensor”, Beni-Suef University 2010-2014
7. Mahmoud Assem Hussein M.Sc. thesis “Haptic control development of robotic arm”, 2011-2014

Research groups

- **Egyptian-German College of Technology** Assiut, EDF, Egypt: 2021-present
- **Mechatronics**, Assiut University, Egypt: 2001- present
- **Southern federal university**, Russia:2008-2012.

Grants

S	Project Title	Funding Organization	Project End Date	Budget	Role in Project
1	Assiut ITEC Integrated Technical Education Cluster An Egyptian-German Project	KFW	Still working	20 million Euro	Project Director since 2021
2	Applying the concept of the Fourth Industrial Revolution to the water system in Egypt through the establishment of the Smart Water Grid System.	ASRT	2019-2021	2250,000	Co-PI
3	Design and control of a compliant force gripper	Zarqa university, Jordan	2019	1000 JD	Research
4	Strengthening of the research and educational capacity on advanced technology of Assiut University	Ministry of Education in Korea	2016-2018 First phase	400,000 \$	Member (Industry-University cooperation research)
5	Design and manufacturing of double decker car of passenger train	ASRT	2015-2016	3000,000 EGP	PI
6	Design, development and manufacturing of floating fish feed extruder complete production plant)	ASRT	2015-2016	7000,000 EGP	Control engineering
7	Deeping the local component of Anhydrous ammonia injecting machine to soil	funded by the ASRT	2014-2015	300,000 EGP	PI
8	Empowering the Bottom of the Pyramid – BOP via The Egyptian Social Innovation Cluster, As partner with Misr El Kheir Foundation	RDI	2014-2016	100,000 Euro	PI
9	Design, develop and manufacture mobile fab. Lab. (Tok-Tok fab, lab.) as	funded by the ASRT	2013-2014	700,000	Mechatronic engineering

	an mobile industrial and innovation training unit			EGP	
10	Development of Mechatronics Courses Undergraduate Project (DMCUP) in Faculty of Engineering, Assiut University.	HEEPF	2003-2008	1000,000 EGP	Lab engineering

Selected Supervisor Graduations students Projects

	Project Title	Funding Organization	Project year
1	Modeling and Motion Control of Industrial Manipulator	Assiut University	2023
2	Design and development of SCARA robot.	Assiut University	2021
3	Design and development of 4 axis manipulator robot	Zarqa university ,Jordan	2018
4	PID Water level control using PLC based on SCADA system	Assiut University	2017
5	Automatic Cut and Strip Machine	ASRT	2017
6	Autonomous Navigation for Flying Robots	Assiut University	2016
7	Two Wheel Self-Balancing Robot	Assiut University	2016
8	CNC with Plasma cutting tools	Assiut University	2015
9	Dosing and Mixing System Using PLC and SCADA by HMI technology	Assiut University	2014
10	Design and Manufacturing of A 3kw Vertical Wind Turbine designed to suit the Egyptian climate	ASRT	2013
11	Design and Production of Numerical Controlled Dynamic Balancing Machine”	ASRT	2012
12	Supervisor in Robocon students teams	Assiut University	2006-2008

Awards and Achievements

Certificate of Appreciation Egyptian engineering day	Smart village conference	2016
The 2 nd Cairo International of Exhibition and Innovation	Cairo	2015

The First Egypt-Japan Workshop on Practical Education for Mechatronics and Robotics, Egypt-Japan University for Science and Technology, E-JUST.	Alexandria, Egypt.	2014
The 1 st Cairo International of Exhibition and Innovation	Cairo	2014
Effective participation and whole activities in the scientific sessions on the conference of 4th Assiut University international conference on mechanical engineering for industrial production,	Assiut University	2006.
Syndicate of Egyptian Engineers Award for first Class Honor	Egyptian Engineering Syndicate	2002.
Honor Degree for First Class Position	Assiut University	2001
The Prize of Prof. Dr/Fathi Abdallah Abd Elhafiz	Assiut University	2000
The Prize of Prof. Dr. Mohamed Ramadan El-Sadik (2nd year Mech.)	Assiut University	1999.

Personal Skills

- Teamwork
- Ability to apply academic knowledge to real life situations
- Flexibility to perform various tasks
- Creative thinking

Computer skills

Packages: PLC, SCADA Programming (Hardware, Software)
 LabVIEW: Instrumentation and Control System
 MATLAB/Simulink (Control System)
 MS office and Linux operating system.

Programming

- C++, ROS QNX Momentics ide.

Training, Extra Studies & Knowledge

- Visiting Korea as a member of a joint research work between faculty of engineering Assiut university and Korea University of technology and education, Republic of Korea,2017
- NI Academic Day 2017' in New Cairo, Egypt.
- Juhayna Food Industries -Assiut (Visitor 2014,2015)
- Fish Food Production Factory, Elmanzala (3 months,2014)
- Elglaa factory of milk production, as a maintenance engineer, (2002-2004).
- Training in The Sugar factory in Dishna, (summer, 1999).
- Training in Aluminum factory in nag- hamadi-Qena, (summer, 1998)

Consultation

- Director consultant committee project of establishing integrated technical education cluster in Assiut, Education Development Fund, Egyptian Council of Ministers, Egypt
- Consultant of the science and technology committee at Assiut University 2021-present.
- Research and Development manager in integrated technology transfer unit at Assiut University 2013-2016
- Consultant of the science and technology committee at Assiut University 2014-2017

Technical Experience

- PLC Trainer from Assiut University to Samsung Electronic Egypt and LG Electronic Egypt as one activities of cooperation project between Assiut University and KOREATECH university, South Korea,2017
- Industrial Control Instructor, Faculty of Engineering at Assiut University, Egypt. Worked as a PLC programmer and Trainer at Siemens Lab.
- Design and manufacture of railway double-decker train carriage with cooperation with SEMAF Egypt, 2015
- Developing and updating control systems in Fish feed production factory at el Manzala,2015
- Manufacture and development of small vertical wind turbines for the use of the home to be suitable for the conditions of the Egyptian,2014.

- 20012–now Industrial Control Instructor, Faculty of Engineering at Assiut University, Egypt. Worked as a PLC programmer and Trainer at Automation Lab.

Professional Membership

- Syndicate of Egyptian Engineers

Languages

Arabic:	Native
English:	Excellent
Russian:	Intermediate

Community Service

University activities

- Participation in the work of quality and preparation of the College for accreditation.
- Participation in the membership of the committees of the Faculty of Engineering.
- Supervising the Mechatronics and Robotics Laboratory at the Faculty of Engineering.
- Supervising the Science and Technology Club at Assiut University.

Personal Hobbies

- Reading
- Club leadership
- Chess

Referees.

1. Prof. Moumen Taha El-Melegy, Supervisor of Assiut University network center, Professor at department of electrical engineering, Faculty of Engineering, Assiut University.

Contact: mmelegy@aun.edu.eg , moumen@aun.edu.eg

2. V. K. Pshikhopov, my advisor at Southern Federal University.

Contact: pshichop@rambler.ru , Tel: +7 (8634) 37-16-94

3. Prof. Dr. Ibrahim M. Hassab-Allah, Professor of Manufacturing Engineering, Head of the Mech. Eng. Department, Faculty of Engineering, Assiut University, Assiut, EGYPT

Contact: Mobile: +201205909558 E mail: hasa57ibm@yahoo.com

My achievements: Egyptian-German College of Technology

- Bylaw of the Egyptian-German Technology collage was accredited from the ministry of higher education in September 2021 for all programs.
- General supervision of the various departments and following up on the progress of the educational process according to the time plan.
- General supervision of the development and updating of technological training modules.
- General supervision and follow-up of the industrial training plan for students within factories and companies.
- Following up on the work of the graduate follow-up unit and providing them with job opportunities in factories and companies, as well as following up on students' applications for scholarships
- Completing and equipping the college's workshops and laboratories in accordance with the German partner's standards.
- Protocol with Sawiris Foundation for social development. By this agreement, Sawiris foundation pays the The German-Arab Chamber of Industry and Commerce (GACIC) certificate cost for 3 years in the TSS level.
- Agreement with GACIC to examine students according to the German standards and issue level C certificate for the students who pass the exams.
- Agreement with cisco academy to open Cisco ITEC academy such that Assiut ITEC will be authorized to teach cisco courses.
- Protocol with The Academy of Scientific Research and Technology (ASRT) to fund the graduation projects over 3 years.
- Agreement with the ministry of Manpower to train the students.
- Assiut university to facilitate using the university resources.
- Arab contractors company in training and consultation.
- Cemex Factory in training and consultation.