



PERSONAL INFORMATION

Full Name: Keyvan Asefpour Vakilian

Nationality: Iranian

Academic Level: Assistant Professor

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E-mail: keyvan.asefpour@gau.ac.ir

EDUCATION

Degree obtained: Ph.D. in Biosystems Engineering 2013-2018
Department of Agrotechnology, College of Abouraihan, University of Tehran, Iran

Title of dissertation: “Design, Development and Performance Evaluation of an Intelligent Biosensor for the Measurement of Nitrate Ion in Greenhouse Crops”.

GPA: 18.52 out of 20.

Degree obtained: M.Sc. in Agricultural Engineering 2010-2012
Department of Agrotechnology, College of Abouraihan, University of Tehran, Iran

Title of thesis: “Design, Development and Performance Evaluation of a Robot to Measure the Image Textural Features in Greenhouse Cucumber”.

GPA: 18.77 out of 20.

Degree obtained: B.Sc. in Agricultural Engineering 2006-2010
Faculty of Agriculture, Tabriz University, Tabriz, Iran.

Title of final project: “Applications of Condition Monitoring in Agricultural Engineering”.

GPA: 17.12 out of 20.

RESEARCH INTERESTS

Design and development of smart sensors and biosensors
Pattern recognition in electrochemical sensors
Intelligent sensing devices for Internet of Things
Machine vision and image processing
Machine olfaction and tasting
miRNA biosensors for plant biotic and abiotic stress studies
Gene expression and miRNA regulation in plants
Enzyme-based intelligent sensing machines
New machine learning techniques for environmental sensors
Water pollution monitoring systems
New sensors for performance evaluation of bio-nano-robots
Design and development of spectroscopic devices
Using nanoparticles in enzyme and miRNA sensors.

PUBLICATION

2023

1. Mohammadi P., Massah J., **Asefpour Vakilian K.** 2023. Robotic date fruit harvesting using machine vision and a 5-DOF manipulator. *Journal of Field Robotics (Wiley)*, In Press.

2. Javidan S.M., Banakar A., **Asefpour Vakilian K.**, Ampatzidis Y. 2023. Tomato leaf diseases classification using image processing and weighted ensemble learning. *Agronomy Journal (Wiley)*, In Press.

3. Sarlaki E., Kianmehr M.H., Ghorbani M., Kermani A.M., **Asefpour Vakilian K.**, Angelidaki I., Wang Y., Gupta V. K., Pan J., Tabatabaei M., Aghbashlo M. 2023. Highly humified nitrogen-functionalized lignite activated by urea pretreatment and ozone plasma oxidation. *Chemical Engineering Journal (Elsevier)*, 456: 140978.

4. Javidan S. M., Banakar A., **Asefpour Vakilian K.**, Ampatzidis Y. 2023. Diagnosis of grape leaf diseases using automatic K-means clustering and machine learning. *Smart Agricultural Technology (Elsevier)*, 3: 100081.

2022

5. Tabibi Z., Massah J., **Asefpour Vakilian K.** 2022. A biosensor for the sensitive and specific measurement of arsenite using gold nanoparticles. *Measurement (Elsevier)*, 187: 110281.

6. Massah, J., Nomanfar, P., Dehghani-Soufi, M., **Asefpour Vakilian, K.** 2022. Electrical properties measurement: A nondestructive method to determine the quality of bread doughs during fermentation. *Journal of Cereal Science (Elsevier)*, 107: 103530.

7. Ghorbani, M., Li, Q., Kianmehr, M.H.,

8. Mortazavizadeh F., Fatahi A., **Asefpour**

Arabhosseini, A., Sarlaki, E., **Asefpour Vakilian, K.**, Varjani, S., Wang, Y., Wei, D., Pan, J., Aghbashlo, M., Tabatabaei, M. 2022. Highly digestible nitrogen-enriched straw upgraded by ozone-urea pretreatment: digestibility metrics and energy-economic analysis. *Bioresource Technology* (**Elsevier**), 360: 127576.

9. Aboonajmi M., Ganjdoost M., Mirsaeedghazi H., **Asefpour Vakilian K.** 2022. Effect of power ultrasound treatment on the shelf life of edible mushroom. *Journal of Food Research* (**University of Tabriz**), 32: 139-152.

2021

10. Massah J., **Asefpour Vakilian K.**, Shabaniyan M., Shariatmadari S. M. 2021. Design, development, and performance evaluation of a robot for yield estimation of kiwifruit. *Computers and Electronics in Agriculture* (**Elsevier**), 185: 106132.

12. Sarlaki E., Kermani A. M., Kianmehr M.H., **Asefpour Vakilian K.**, Hosseinzadeh-Bandbafha H., Ma N.L., Aghbashlo M., Tabatabaei M., Lam S.S. (2021). Improving sustainability and mitigating environmental impacts of agrobiowaste compost fertilizer by pelletizing-drying. *Environmental Pollution* (**Elsevier**), 285: 117412.

14. Sarlaki E., Sharif Paghaleh A., Kianmehr M.H., **Asefpour Vakilian K.** 2021. Valorization of lignite wastes into humic acids: Process optimization, energy efficiency and structural features analysis. *Renewable Energy* (**Elsevier**), 163: 105-122.

Vakilian K., Pagliari P.H., Cerdà A., Mirzaei M., Zhang X., Adnan Ikram R.M. 2022. Effects of ash derived from livestock manure and two other treatments on soil moisture content and water infiltration rate. *Irrigation and Drainage* (**Wiley**). 71: 1024-1033.

11. Hejazipoor H., Massah J., Soryani M., **Asefpour Vakilian K.**, Chegini G. 2021. An intelligent spraying robot based on plant bulk volume. *Computers and Electronics in Agriculture* (**Elsevier**), 180: 105859.

13. Esmaili M., Aliniaiefard S., Mashal M., **Asefpour Vakilian K.**, Ghorbanzadeh P., Azadegan B., Seif M., Didaran F. 2021. Assessment of adaptive neuro-fuzzy inference system (ANFIS) to predict production and water productivity of lettuce in response to different light intensities and CO₂ concentrations. *Agricultural Water Management* (**Elsevier**), 258: 107201.

15. Ganjdoost M., Aboonajmi M., Mirsaeedghazi H., **Asefpour Vakilian K.** 2021. Effects of power ultrasound treatment on the shelf life of button mushrooms: Digital image processing and microbial counting can reveal the effects. *Food Science & Nutrition* (**Wiley**), 9: 3538-3548.

16. Hejazipoor H., Massah J., **Asefpour Vakilian K.**, Soryani M., Chegini G. 2021. Design, manufacture and evaluation of automatic spraying mechanism in order to increase productivity. *Agricultural Engineering (Scientific Journal of Agriculture (Shahid Chamran University))*, 44: 1-19.

2020

17. **Asefpour Vakilian K.** 2020. Machine learning improves our knowledge about miRNA functions towards plant abiotic stresses. *Scientific Reports (Nature)*, 10: 3041.

19. Sharifi M., Messiga A.J., **Asefpour Vakilian K.**, Stopford E., Hutchinson T. 2020. Spatial distribution of soil phosphorous fractions following 1-year farrowing sows in an outdoor hog-rearing farm in Eastern Canada. *Environmental Monitoring and Assessment (Springer)*, 192: 322.

21. Massah J., Hassanpour F., Hassanpour Z., **Asefpour Vakilian K.** 2020. Experimental investigation of bionic soil-engaging blades for soil adhesion reduction by simulating *Armadillidium vulgare* body surface. *INMATEH-Agricultural Engineering (INMA)*, 60: 99-106.

18. **Asefpour Vakilian K.** 2020. Determination of nitrogen deficiency-related microRNAs in plants using fluorescence quenching of graphene oxide nanosheets. *Molecular and Cellular Probes (Elsevier)*, 52: 101576.

20. Sarlaki E., Sharif Paghaleh A., Kianmehr M.H., **Asefpour Vakilian K.** 2020. Chemical, spectral and morphological characterization of humic acids extracted and membrane purified from lignite. *Chemistry & Chemical Technology (Lviv Polytechnic University)*, 14: 353-361.

22. Ghorbani M., Aboonajmi M., **Asefpour Vakilian K.** 2020. The machine vision technology in precision agriculture: A comprehensive review on principles and applications. *Soft Computing Journal (University of Kashan)*, 9: 92-113.

2019

23. Massah J., **Asefpour Vakilian K.** 2019. An intelligent portable biosensor for fast and accurate nitrate determination using cyclic voltammetry. *Biosystems Engineering (Elsevier)*, 177: 49-58.

24. **Asefpour Vakilian K.** 2019. Gold nanoparticles-based biosensor can detect drought stress in tomato by ultrasensitive and specific determination of miRNAs. *Plant Physiology and Biochemistry (Elsevier)*, 145: 195-204.

25. Sarlaki E., Sharif Paghale A., Kianmehr M.H., **Asefpour Vakilian K.** 2019. Extraction and purification of humic acids from lignite wastes using alkaline treatment and membrane ultrafiltration. *Journal of Cleaner Production* (**Elsevier**), 235: 712-723.

27. Massah J., **Asefpour Vakilian K.**, Torktaz S. 2019. Supervised machine learning algorithms can predict penetration resistance in mineral-fertilized soils. *Communications in Soil Science and Plant Analysis* (**Taylor and Francis**), 50: 2169-2177.

26. Amanabadi S., Vazirinia M., Vereecken H., **Asefpour Vakilian K.**, Mohammadi M.H. 2019. Comparative study of statistical, numerical and machine learning-based pedotransfer functions of water retention curve with particle size distribution data. *Eurasian Soil Science* (**Springer**), 52: 1555-1571.

28. Sarlaki E., Sharif Paghaleh A., Kianmehr M. H., Shakiba N., **Asefpour Vakilian K.**, Mirsaeedghazi, H. 2019. Post-treatment of lignite-derived humate alkaline extracts using membrane-based technology for high-purity humic acid production. *Journal of Environmental Science and Technology* (**Islamic Azad University**), 15147.

2018

29. **Asefpour Vakilian K.**, Massah J. 2018. A portable nitrate biosensing device using electrochemistry and spectroscopy. *IEEE Sensors Journal* (**IEEE**), 18: 3080-3089.

30. **Asefpour Vakilian K.**, Massah J. 2018. A fuzzy-based decision making software for enzymatic electrochemical nitrate biosensors. *Chemometrics and Intelligent Laboratory Systems* (**Elsevier**), 177: 55-63.

2017

31. **Asefpour Vakilian K.**, Massah J. 2017. A farmer-assistant robot for nitrogen fertilizing management of greenhouse crops. *Computers and Electronics in Agriculture* (**Elsevier**), 139: 153-163.

32. **Asefpour Vakilian K.** 2017. Using networks in plant disease diagnosis. *CAB Reviews: Perspectives in Agriculture, Veterinary Science, Nutrition and Natural Resources* (**CAB International**), 12: 047.

2016

33. **Asefpour Vakilian K.**, Massah J. 2016. An apple grading system according to European fruit quality standards using Gabor filter and artificial neural networks. *Scientific Study and Research: Chemistry and Chemical Engineering, Biotechnology, Food Industry* (**Bacau University**), 17: 75-85.

34. Yazdani N., Osanloo B., Lotfi M., **Asefpour Vakilian K.** 2016. Application of image processing for investigating the effect of nanozeolite and nanosponge on flesh firmness of cold stored cantaloupe. *International Journal of Horticultural Science and Technology* (**University of Tehran**), 4: 127-133.

2015

35. Razzaghi E., Massah J., **Asefpour Vakilian K.** 2015. Mechanical analysis of a robotic date harvesting manipulator. Russian Agricultural Sciences (**Springer**), 41: 80-85.

2014

36. Hashemi A., **Asefpour Vakilian K.**, Khazaei J., Massah J. 2014. An artificial neural network modeling for force control system of a robotic pruning machine. Journal of Information and Organizational Sciences (**Faculty of Organization and Informatics**), 38: 35-41.

38. Jafari M., Sabzevari A., **Asefpour Vakilian K.** 2014. Effects of planting methods on yield and morphological traits of three chickpea cultivars in rain fed conditions. Russian Agricultural Sciences (**Springer**), 40: 339-343.

37. **Asefpour Vakilian K.**, Abounajmi M., Massah J. 2014. A statistical approach to classify agricultural satellite images using textural features extraction. Journal of Engineering Studies and Research (**Bacau University**), 20: 17-22.

2013

39. **Asefpour Vakilian K.**, Massah J. 2013. An artificial neural network approach to identify fungal diseases of cucumber (*Cucumis sativus* L.) plants using digital image processing. Archives of Phytopathology and Plant Protection (**Taylor and Francis**), 46: 1580-1588.

41. Massah J., **Asefpour Vakilian K.** 2013. Statistical modelling of error measurement for diaphragm gas meters at different ambient temperatures. Acta Technica Corviniensis (**University Politehnica Timisoara**), 6: 97-100.

40. **Asefpour Vakilian K.**, Massah J. 2013. Performance evaluation of a machine vision system for insect pests identification of field crops using artificial neural networks. Archives of Phytopathology and Plant Protection (**Taylor and Francis**), 46: 1262-1269.

2012

42. **Asefpour Vakilian K.**, Massah J. 2012. Design, development and performance evaluation of a robot to early detection of nitrogen deficiency in greenhouse cucumber (*Cucumis sativus*) with machine vision. International Journal of Agriculture: Research and Review (**ECISI**), 2: 448-454.

44. Asefpour Vakilian A., **Asefpour Vakilian K.** 2012. A new satellite image segmentation enhancement technique for weak image boundaries. International Journal of Engineering (**University Politehnica Timisoara**), 10: 239-243.

43. **Asefpour Vakilian K.**, Massah J. 2012. Performance evaluation of CCD and CMOS cameras in image textural features extraction. Acta Technica Corviniensis (**University Politehnica Timisoara**), 5: 61-64.

45. **Asefpour Vakilian K.**, Massah J. 2012. Non-linear growth modeling of greenhouse crops with image textural features analysis. International Research Journal of applied and Basic Science (**Science Explore**), 3: 197-202.

Presentations in Conferences and Seminars

1. **Asefpour Vakilian K.** 2023. Plant growth monitoring in cucumber greenhouse using real-time image processing, 4th International Conference on Agricultural Science and Engineering, March 8-10, 2023, Yerevan, Armenia.

3. **Asefpour Vakilian K.** 2022. Optimization methods can increase the durability of smart electrochemical biosensors, 8th IEEE-Iranian Conference on Signal Processing and Intelligent Systems, December 28-29, 2022, Behshahr, Iran.

5. Javidan S.M., Banakar A., **Asefpour Vakilian K.**, Ampatzidis Y. 2022. A feature selection method using slime mould optimization algorithm in order to diagnose plant leaf diseases, 8th IEEE-Iranian Conference on Signal Processing and Intelligent Systems, December 28-29, 2022, Behshahr, Iran.

2. **Asefpour Vakilian K.** 2023. A robust method based on Markov model and fuzzy inference system to classify high-resolution aerial images of agricultural terrains, 4th International Conference on Agricultural Science and Engineering, March 8-10, 2023, Yerevan, Armenia.

4. **Asefpour Vakilian K.**, Zarafshan P. 2022. A fuzzy controller design for a stem-vibration strawberry harvester robot, 8th IEEE-Iranian Conference on Signal Processing and Intelligent Systems, December 28-29, 2022, Behshahr, Iran.

6. **Asefpour Vakilian, K.** 2022. Predicting the success rate of entrepreneurship in biotechnological companies using machine learning (Case study: Iranian companies). 10th International Scientific Conference on Space, Society, and Politics, June 23-25, 2022, Tbilisi, Georgia.

7. **Asefpour Vakilian K.** 2022. A nitrate enzymatic biosensor based on optimized machine learning techniques, 9th IEEE-Iranian Joint Congress on Fuzzy and Intelligent Systems, March 2-4, 2022, Bam, Iran.

9. **Asefpour Vakilian K.** 2021. An intelligent environmental biosensor based on the fuzzy inference system, AHI EVRAN International Conference on Scientific Research, November 30-December 2, 2021, Kirşehir, Turkey.

11. **Asefpour Vakilian K.,** Massah J. 2021. An efficient crop yield estimation algorithm in kiwifruit orchards, 1st International Architectural Sciences and Application Symposium, October 27-29, 2021, Isparta, Turkey.

13. **Asefpour Vakilian K.** 2021. Artificial neural networks for predicting the success of bio-entrepreneurship, 16th International Silk Road Conference, October 14-15, 2021, Tbilisi, Georgia.

15. Mohammadi P., Massah J., **Asefpour Vakilian K.** 2021. Waste Management Situation and Costs in Date Palm Groves (Case study: Kerman, Iran), 16th International Silk Road Conference, October 14-15, 2021, Tbilisi, Georgia.

17. **Asefpour Vakilian K.,** Massah J. 2018. An online image-based plant biodiversity detection method using support vector machines, International Conference on Biodiversity and Wildlife Conservation Ecological Issues,

8. **Asefpour Vakilian K.** 2021. Metaheuristic optimization to improve machine learning in Raman spectroscopic-based detection of foodborne pathogens, 7th IEEE-International Conference on Signal Processing and Intelligent Systems, December 28-29, 2021, Tehran, Iran.

10. **Asefpour Vakilian K.** 2021. A comparison of optimization methods in image processing-based agricultural yield estimation, AHI EVRAN International Conference on Scientific Research, November 30-December 2, 2021, Kirşehir, Turkey.

12. **Asefpour Vakilian K.** Massah J. 2021. Decision tree and support vector regression to model electrochemical biosensors, 1st International Architectural Sciences and Application Symposium, October 27-29, 2021, Isparta, Turkey.

14. **Asefpour Vakilian K.** 2021. Environmental and economic benefits of water quality assessment biosensors in developing countries, 16th International Silk Road Conference, October 14-15, 2021, Tbilisi, Georgia.

16. Rezaei Gashniani E., Massah J., **Asefpour Vakilian K.** 2021. Investigating the ease of movement of flexible, four-bar, and hinged tracked robots on cement and ceramic surfaces, 16th International Silk Road Conference, October 14-15, 2021, Tbilisi, Georgia.

18. Jazayeri S. I., Massah J., **Asefpour Vakilian K.** 2018. A review on recent conflicts of wildlife and human ecosystems, International Conference on Biodiversity and Wildlife Conservation Ecological Issues, October 5-7, 2018, Tsaghkadzor, Armenia.

October 5-7, 2018, Tsaghkadzor,
Armenia.

19. Massah J., Kamandar M. R.,
Mousavi M. S., **Asefpour Vakilian K.**
2018. Economic advantages of a
farmer-assistant robot for commercial
tomato greenhouses, 13th
International Silk Road Conference,
May 23-24, 2018, Tbilisi, Georgia.

21. **Asefpour Vakilian K.** 2017.
Design and development of an
intelligent amperometric glucose
oxidase glucometer, 9th International
Congress of Laboratory and Clinic,
February 21-24, 2017, Tehran, Iran.

23. **Asefpour Vakilian K.**, Massah J.
2016. Identification of effective
parameters in the success of bio-
entrepreneurship (case study: Iran),
11th International Silk Road
Conference, May 20-21, 2016, Tbilisi,
Georgia.

25. **Asefpour Vakilian K.**, Abounajmi
M., Massah J., Asefpour Vakilian A.
2014. Classification of high-resolution
aerial images of agricultural terrains
using hidden Markov model, 3rd
International Conference on GIS and
Remote Sensing, November 17-19,
2014, Tsaghkadzor, Armenia.

27. **Asefpour Vakilian K.**, Massah J.
2014. A novel method for determining
health status of greenhouse crops
using image processing and fuzzy
logic, 5th International Scientific
Agricultural Symposium, October 23-
26, 2014, Jahorina, Bosnia and
Herzegovina.

20. Massah J., Mohammadi P.,
Shariatmadari S. M., **Asefpour Vakilian K.**
2018. Economic comparison of manual and
mechanized date palm harvesting (a case
study on Anarabad region, Kerman
province, Iran), 13th International Silk
Road Conference, May 23-24, 2018, Tbilisi,
Georgia.

22. **Asefpour Vakilian K.**, Massah J. 2016.
Artificial neural network modeling of a
nitrite enzyme-based electrochemical
biosensor, International Scientific
Conference, September 21-23, 2016, Ureki,
Georgia.

24. **Asefpour Vakilian K.**, Jafari, M.,
Zarafshan P. 2015. Dynamics modelling
and control of a strawberry harvesting
robot, 3rd IEEE-RSI International
Conference on Robotics and Mechatronics,
October 7-9, 2015, Tehran, Iran.

26. Asefpour Vakilian A., Satari, M.,
Asefpour Vakilian K. 2014. Accurate
terrain referenced navigation with on the
go airborne LIDAR data for rough and
smooth terrains, 3rd International
Conference on GIS and Remote Sensing,
November 17-19, 2014, Tsaghkadzor,
Armenia.

28. Razzaghi E., Massah J., **Asefpour
Vakilian K.** 2014. Design and development
of a robotic date harvesting manipulator,
5th International Scientific Agricultural
Symposium, October 23-26, 2014, Jahorina,
Bosnia and Herzegovina.

29. **Asefpour Vakilian K.**, Massah J. 2012. Evaluation of an autonomous robot to health status detection of greenhouse crops using real time image processing, 2nd International Scientific Conference on Engineering, Manufacturing and Advanced Technologies, November 22-24, 2012, Antalya, Turkey.

31. **Asefpour Vakilian K.**, Massah J., Kieh Badroudi Nejad M.A. 2012. Modeling of greenhouse tomato grow-scale with image textural features extraction, 7th National Congress on Agricultural Engineering and Mechanization, September 4-6, 2012, Shiraz, Iran.

33. Kieh Badroudi Nejad M. A., Massah J., **Asefpour Vakilian K.** 2012. Autonomous robot for tomato harvesting with image processing, 7th National Congress on Agricultural Engineering and Mechanization, September 4-6, 2012, Shiraz, Iran.

35. **Asefpour Vakilian K.**, Mahmodian M. 2012. Predicting secondary structure of Phenylalanine tRNA sequences in Cartesian coordinates, 1st National Congress off Biotechnology, July 2-3, 2012, Gorgan, Iran.

37. **Asefpour Vakilian K.**, Massah J. 2012. Tomato calcium deficiency detection with machine vision computed textural features, 6th National Congress of New Ideas in Agriculture, February 28-29, 2012, Isfahan, Iran.

30. **Asefpour Vakilian K.**, Massah J. 2012. Health status detection of greenhouse cucumber using real-time machine vision technique, International Conference on Computer Science, Engineering, Technology and Applications, September 17-18, 2012, Budapest, Hungary.

32. Seifi M.R., **Asefpour Vakilian K.**, Alimardani R., Sharifi A. 2012. Evaluation of relationship between soil electrical conductivity and other parameters on performance of agricultural production, 7th National Congress on Agricultural Engineering and Mechanization, September 4-6, 2012, Shiraz, Iran.

34. **Asefpour Vakilian K.**, Mahmodian M. 2012. INN thermodynamic parameter calculation for RNA secondary structure prediction using regression model and neural network, 1st National Congress of Biotechnology, July 2-3, 2012, Gorgan, Iran.

36. **Asefpour Vakilian K.**, Salehi A., Ebrahimzade H. 2012. Predicting Secondary Structure of RNA with INN Model, 12th National Congress of Genetics, May 21-23, 2012, Tehran, Iran.

38. **Asefpour Vakilian K.**, Massah J., Ebrahimzade H. 2012. Evaluation of greenhouse cucumber grow-scale modelling with homogeneity changes of image, 6th National Congress of New Ideas in Agriculture, February 28-29, 2012, Isfahan, Iran.

ACADEMIC TEACHING EXPERIENCE

Teaching several courses at University of Tehran and Gorgan University including: Advanced modelling methods (Ph.D. students) Image processing and its applications (Ph.D. students) Introduction to Machine vision (M.Sc. students) Measurement and control systems (B.Sc. students) Introduction to Electronics (B.Sc. students) Hydraulic and pneumatic systems (B.Sc. students) Physics- Electricity and Magnetism (B.Sc. students)	2017-present
Teaching several courses at private institution of “Arshad House of Techniques” including: MATLAB, Python and C++ programming languages, Simulink, Machine learning methods, Convolutional neural networks, Artificial intelligence, Evolutionary optimization algorithms, Advanced simulation methods	2011-present
Teaching several courses as Teaching Assistant at University of Tehran including: Laboratory of Measurement and control systems (M.Sc. students) MATLAB Programming (B.Sc. students) Toolboxes and Simulink in MATLAB Programming environment (M.Sc. and Ph.D. students)	2010-2013

COLLABORATION WITH INDUSTRY

Design and development of point-of-care enzyme biosensors to determine nitrate, arsenic, and phosphate for several environmental companies with a 25000 USD profit	2017-2022
Implementation of automation systems in commercial tomato hydroponic greenhouses with a 9000 USD profit	2015-2019
Implementation of measurement and control systems for 10 commercial humic acid purifiers with a 6000 USD profit	2012-2013

SERVICE AND PROFESSIONAL MEMBERSHIP

Member of Institute of Electrical and Electronics Engineers (IEEE)	2018-present
Member of American Chemical Society (ACS)	2021-present
Member of European Federation for Information Technology in Agriculture (EFITA)	2016-present
Member of International Society of Automation (ISA)	2018-present

AWARDS

Outstanding entrepreneur of Gorgan University of Agricultural Sciences and Natural Resources	2022
Faculty member of the year with the most scientific growth, Gorgan University of Agricultural Sciences and Natural Resources	2022
Outstanding consultant professor of student scientific associations, Gorgan University of Agricultural Sciences and Natural Resources	2021
Outstanding national Ph.D. graduate selected by Iran's National Elites Foundation (INEF).	2019
Outstanding Ph.D. dissertation of University of Tehran.	2018
Ph.D. dissertation fund award of University of Tehran Science & Technology Park (3000 USD).	2017
Outstanding Ph.D. student of University of Tehran.	2017
Outstanding researcher student selected in Research Festival of University of Tehran.	2015
Top-ranked inventor for "Farmer-assistant Fertilizing Robot" in the Creativity Exhibition of the 3 rd IEEE-RSI International Conference on Robotics and Mechatronics, Tehran, Iran	2015
Top-ranked group leader for "Design and development of an electrical vehicle (ARAS Team)". Tabriz University, Tabriz, Iran.	2010
Third place in "3 rd Competition of RoboCup Open Competition" for a Firefighter Robot. Tehran, Iran.	2005

LANGUAGES:

Persian: Mother tongue

English: Reading and writing: Proficient
Listening: Advanced skill
Speaking: Upper-intermediate
IELTS Academic Score: 7.0