

Curriculum Vitae

Riyadh Nazar Ali Algburi

Nationality: Iraq

✉ riaydhmechatronics@gmail.com



˘ <https://scholar.google.com/citations?user=iVrIGwkAAAAJhl=en>

˘ [linkedin.com/in/riyadh-algburi-7893a215b](https://www.linkedin.com/in/riyadh-algburi-7893a215b)

˘ <https://orcid.org/0000-0002-5412-2164>

˘ <https://publons.com/researcher/4882568/riyadh-nazar-ali-algburi/>

˘ <https://www.researchgate.net/profile/Riyadh-Algburi>

Whatsapp Messenger :

🏠 Eastern Abbasiya, Karbala Center, Karbala, Iraq



Summary

In December 2022, I received my Ph.D. in Mechatronics Engineering from Southwest Jiaotong University in Chengdu, China. Baghdad University awarded me a Master of Mechatronics Engineering (M.ME.) in 2013 and a Bachelor of Mechatronics Engineering (B.ME.) in 2002. My research interests are in the general areas of signal processing, image processing, and machine learning, particularly sparse representation and deep learning, and their applications in fault detection and diagnosis, health condition monitoring in rotary machines, and especially industrial robots.

Experience

📌 Member of Research Team.

(September. 2016, 2022)

Engineering Research Center of Advanced Driving Energy-Saving Technology, Chengdu, Sichuan, China.

Our team research interests include, the areas of sparse representation and deep learning, and their applications in the areas of fault detection and diagnosis, condition monitoring and healthcare for industrial robots.

📌 Instructor

(September. 2013, Jun. 2016)

AL-Hussein University College Kerbala, Iraq.

I taught some classes in this university such as power electronics and digital system design for medical engineering department, and control systems for computer science engineering and communications engineering.

📌 Control Engineer at the Department of Measurement and Sensors.

(Nov. 2003, Sep. 2010)

Kerbala Cement Manufacturing Limited.

It was my tasks in this plant is maintenance and feeder systems for calibration its include; Kiln, Cement Mill, Material Mill and Crusher, measurement devices system comprise heat, pressure, flow and indicators. Besides, programming Bridge scales, gases analysis systems.

Skill Highlights

Languages 📌 English (Advanced), Arabic (Native), Chinese (basic).

Skill Highlights (continued)

- Coding **■** Python, Matlab, SQL, R language, Weka, SPSS, Ladder Diagram, Structure text.
- Frameworks **■** Pytorch, Tensorflow, Keras, Caffe, Pycharm, L^AT_EX.
- Software **■** Solidworks, Photoshop, OFFICE
- Experiment **■** Modal test and vibration test for industrial robotic
- Misc. **■** Critical thinker, Decision maker, Quick learner, Creative thinker, Innovative, Self-Learner.

Honors and awards

- Scholarship from China Scholarship Council (CSC) for Ph.D. Degree in China, 2016-2022.

Areas of interest

- Signal Processing, Sparse Representation, Dictionary Learning, Deep Learning Applications, Machine Learning, Numerical simulation analysis, Data analysis, Health assessment and enhancement of fault detection system for the industrial robot, Prognostics, Health Management, Image Processing and Artificial Intelligence Applications.

Education

- Ph.D. , IN Mechatronic Engineering (GPA: 3.63/4.0). (Sep.2016- Dec.2022)**
Southwest Jiaotong University, Chengdu, Sichuan, China.
Thesis title: Research on Weak Vibration Detection Technology of Manipulator Based on Singular Spectral Transformation
Advisor: Professor **Hongli Gao**.
- M.S. IN Mechatronic Department/ Alkharizmi College of Engineering. (Sep.2010- May.2013)**
Baghdad University, Baghdad, Iraq.
Thesis title: Design and Implementation of Fuzzy-PLC Based Temperature Control system For the Cooling Tower of Cement Plant.
Advisor: Professor **Bahaa Kadim**.
- B.ME., Mechatronics Engineering. (Sep.1996- July.2002)**
Baghdad University, Baghdad, Iraq.

Fund by

- National Natural Science Foundation of China under Grant No. 51775452**
- National Natural Science Foundation for the Youth of China under Grant No. 51805457**

Research Publications

Journal Articles

- 1 **Algburi, Riyadh Nazar Ali**, Gao, H., & Al-Huda, Z. (2022). Improvement of an industrial robotic flaw detection system. *IEEE Transactions on Automation Science and Engineering*, 1–16, (SCI, IF=6.6 Scopus). [doi:https://doi.org/10.1109/TASE.2022.3141248](https://doi.org/10.1109/TASE.2022.3141248)
- 2 **Algburi, Riyadh Nazar Ali**, Gao, H., & Al-Huda, Z. (2022). A new synergy of singular spectrum analysis with a conscious algorithm to detect faults in industrial robotics. *Neural Computing and Applications*, 1–16, (SCI, IF=5.6 Scopus). [doi:https://doi.org/10.1007/s00521-021-06848-0](https://doi.org/10.1007/s00521-021-06848-0)
- 3 **Algburi, Riyadh Nazar Ali**, & Gao, H. (2019). Health assessment and fault detection system for an industrial robot using the rotary encoder signal. *Energies*, 12(14), 2816, (SCI, IF=3.004 Scopus). [doi:https://doi.org/10.3390/en12142816](https://doi.org/10.3390/en12142816)
- 4 **Algburi, Riyadh Nazar Ali**, & Gao, H. (2019). Detecting feeble position oscillations from rotary encoder signal in an industrial robot via singular spectrum analysis. *IET Science, Measurement & Technology*, 14(5), 600–609, (SCI, IF=1.914 Scopus). [doi:https://doi.org/10.1049/iet-smt.2019.0172](https://doi.org/10.1049/iet-smt.2019.0172)
- 5 **Algburi, Riyadh Nazar Ali**, Gao, H., & Al-Huda, Z. (2020). Implementation of singular spectrum analysis in industrial robot to detect weak position fluctuations. *Fluctuation and Noise Letters*, 2150010, (SCI, IF=1.0 Scopus). [doi:https://doi.org/10.1142/S0219477521500103](https://doi.org/10.1142/S0219477521500103)
- 6 Al-Huda, Z., Bo, P., Yan, Y., & **Algburi, Riyadh Nazar Ali**. (2021). Weakly supervised semantic segmentation by iteratively refining optimal segmentation with deep cues guidance. *Neural Computing and Applications*, 1–26, (SCI, IF=5.6 Scopus). [doi:https://doi.org/10.1007/s00521-020-05669-x](https://doi.org/10.1007/s00521-020-05669-x)
- 7 Al-Huda, Z., Peng, B., Yang, Y., & **Algburi, Riyadh Nazar Ali**. (2020). Object scale selection of hierarchical imagesegmentation with deep seeds. *IET Image Processing*, 1–15, (SCI, IF=2.373 Scopus). [doi:https://doi.org/10.1049/ipr2.12020](https://doi.org/10.1049/ipr2.12020)
- 8 Al-Huda, Z., Zhai, D., Yang, Y., & **Algburi, Riyadh Nazar Ali**. (2021). Optimal scale of hierarchical image segmentation with scribbles guidance for weakly supervised semantic segmentation. *International Journal of Pattern Recognition and Artificial Intelligence*, (2154026), (SCI, IF=1.373 Scopus). [doi:https://doi.org/10.1142/S0218001421540264](https://doi.org/10.1142/S0218001421540264)
- 9 Al-Huda, Z., Peng, B., **Algburi, Riyadh Nazar Ali**, Saghir, A., & Tianrui, L. (2022). Weakly supervised pavement crack semantic segmentation based on multi-scale object localization and incremental annotation refinement. *Applied Intelligence*, (SCI, IF=5.086 Scopus). [doi:https://doi.org/10.1007/s10489-022-04212-w](https://doi.org/10.1007/s10489-022-04212-w)
- 10 Al-Huda, Z., Peng, B., **Algburi, Riyadh Nazar Ali**, Al-antari, M. A., & AL-Jarazi Rabea, D. Z. (2023). A hybrid deep learning pavement crack semantic segmentation. *Engineering Applications of Artificial Intelligence*, (SCI, IF=7.802 Scopus). [doi:https://doi.org/10.1016/j.engappai.2023.106142](https://doi.org/10.1016/j.engappai.2023.106142)
- 11 Al-Huda, Z., Peng, B., **Algburi, Riyadh Nazar Ali**, Al-antari, M. A., AL-Jarazi, R., & Zhai, D. (2023). Asymmetric dual-decoder-u-net for pavement crack semantic segmentation. *Automation in Construction*, 1–17, (SCI, IF=10.3 Scopus). [doi:https://doi.org/10.1016/j.autcon.2023.105138](https://doi.org/10.1016/j.autcon.2023.105138)

Conference Proceedings

- 1 **Algburi, Riyadh Nazar Ali**, Gao, H., & Al-Huda, Z. (2021). Design and implementation fuzzy-plc temperature controller for the cooling tower to reduce dust emission in cement plant. [doi:https://doi.org/10.1142/9789811223334_0152](https://doi.org/10.1142/9789811223334_0152)
- 2 **Algburi, Riyadh Nazar Ali**, Hongli, G., & Al-Huda, Z. (2021). Detection of weak position oscillations in the industrial robot by singular spectrum analysis. [doi:https://doi.org/10.1142/9789811223334_0133](https://doi.org/10.1142/9789811223334_0133)

Certifications

Coursera 'Specialization'

- Deep Learning Specialization by **Andrew Ng** (Founder of DeepLearning.AI, General Partner at AI Fund, Chairman and Co-Founder of Coursera, and an Adjunct Professor at **Stanford University**).
- Python for Everybody Specialization by **University of Michigan**.
- Machine Learning Specialization by **Andrew Ng** (Founder of DeepLearning.AI, General Partner at AI Fund, Chairman and Co-Founder of Coursera, and an Adjunct Professor at **Stanford University**).
- **Google** Data Analytics Professional Certificate
- SQL for Data Science by **University of California, Davis**

Elsevier Researcher Academy

- Fundamentals of Peer Review.
- Certified Peer Reviewer Course.

Reviewer at these journals

- IEEE Transactions on Industrial Electronics
- Expert Systems with Applications
- Applied intelligence
- Computational Intelligence and Neuroscience
- Advances in Mechanical Engineering
- Scientific Reports
- Sensors
- Signals
- Applied sciences

References

Prof. Hongli Gao

PhD, Professor, Doctoral Supervisor
Assistant dean of the School of Mechanical
Director of the Department of Electrical
and Mechanical, Southwest Jiaotong University,
Chengdu, Sichuan, China.
Mobile No: +8613666190615
Email: gao_hongli@yahoo.com&hongli_gao@swjtu.cn

Ass.Prof. Lu Caijiang

Associate Professor, Doctoral Supervisor
School of Mechanical
Southwest Jiaotong University
Chengdu, China
Mobile No: +8618786028073
Email: lu.caij@yahoo.com&lucjpaper@163.com