

Real Time Embedded Systems Design and Implementation

1. Mohammed Hussien Alhaj, M.Sc. thesis, Design and Simulation of a control system of DC motor speed and direction, Karary University, Omdurman-Sudan; Graduated 2018.
2. Mohammed Ahmed Hassan, M.Sc. thesis, Design and simulation of DC Motor Speed controller based on pole placement, Karary University, Omdurman-Sudan; Graduated 2016.
3. Yasser Ali, M.Sc. thesis, Enhancement of DC Motor Speed Using Fuzzy Controller, Karary University, Omdurman-Sudan; Graduated 2016.
4. Suhail Badawi Abdelkarim Ahmed, Ph.D. thesis, Electrical and Electronic Engineering, High Software Defined Radar for target detection, Karary University, Omdurman-Sudan; Graduated 2016- now.
5. Ahmed Osman Abdaldaim, M.Sc. thesis, Design and Implementation of a CNC Controller (Case study Two-Axes CNC Plasma Arc Cutting Machine), Karary University, Omdurman-Sudan; Graduated 2015.
6. Nada Hayder, M.Sc. thesis, Design and Implementation of Sun tracking system, Karary University, 2015.
7. Internal Examiner, Idris Naser, M.Sc. thesis, Design and Implementation of remote control of DC motorized vehicle, Karary University, Omdurman-Sudan; Graduated 2016.
8. External examiner, Ahmed Tagelsir Osman, M.Sc. thesis, Attitude Determination and Control System for Cube Satellites, Sudan University of Science and Technology, Graduated 2016.
9. Internal Examiner, Sami Ahmed, M.Sc. thesis, Implementation of a remotely controlled vehicle, Karary University, Omdurman-Sudan; Graduated 2015.
10. Internal Examiner, Sadam Ibrahim, M.Sc. thesis, Design of control system utilization Nichols chart, Karary University, Omdurman-Sudan; Graduated 2015.
11. Ahmed Abdelrahman A.A., Yasser Ali Almathil, "Speed Control Of DC Motor Using Fuzzy Logic Controller", the IEEE International Conference on Communication, Control, Computing, and Electronics Engineering (ICCCCEE), 16-17 January 2017, Pages: 1 - 8, DOI: 10.1109/ICCCCEE.2017.7867673, ISBN 978-1-5090-1809-3, Publisher IEEE, Khartoum-Sudan.
12. Ahmed Abdelrahman A.A., Mohammed Nasreldien M.A., Abdalaziz Abdalgfar A.A., Ahmed Alfatih A., "Implementation Of A PID Control System On Microcontroller (Dc Motor Case Study)", the IEEE International Conference on Communication, Control, Computing, and Electronics Engineering (ICCCCEE), 16-17 January 2017, Pages: 1 - 5, DOI: 10.1109/ICCCCEE.2017.7866088, ISBN 978-1-5090-1809-3, Publisher IEEE, Khartoum-Sudan.
13. Ahmed Abdelrahman, Abdalbagy Ahmed M, "Design and Implementation of Wireless Fire Fighting System", International Journal of Engineering Sciences Paradigms and Researches (IJESPR), Vol. 31, Issue 01, PP.20-24, June 2016, ISSN: 2319-6564.
14. Ahmed Abdelrahman A.A., Asaad Musaab Ali Yousif, Abubker Dahab, Mohammed Ahmed A.A., Abdalbagy Ahmed M., "Design and Simulation of DC Motor Speed Controller using Pole Placement Technique and MATLAB", International Journal of Engineering Sciences Paradigms and Researches (IJESPR) , Vol. 32, Issue 01, July 2016, PP. 8-15, ISSN: 2319-6564.

15. Ahmed Abdelrahman A.A., Ahmed Abdallah M.E., Ahmed Osman A.A., Akram Mohammed M.E., "A PC-Based Controller Design for CNC Plasma Cutting Machine", Sudanese Engineering Society Journal, 2016.
16. Ahmed Abdelrahman A.A., Elessaid Suliman S., Ahmed Awad A.B., Elkhidir Tay Alla Y.E., Akram Mohammed A.A., "Development of a computer-based aircraft pitot-static instruments test system", IEEE International Conference on Computing, Control, Networking, Electronics and Embedded Systems Engineering (ICCNEEE15), 7-9 Sep. 2015, Pages: 149 - 154, DOI: 10.1109/ICCNEEE.2015.7381446, ISBN 978-1-4673-7867-3 Publisher IEEE, Khartoum-Sudan.
17. Ahmed Abdelrahman A.A., Abdalla Salih A., Omer Elfaki E.E., Elnazir Adam A.H., "Design of high frequency transformer for switch mode power supply", IEEE International Conference on Computing, Control, Networking, Electronics and Embedded Systems Engineering (ICCNEEE15), 7-9 Sep. 2015, Pages: 129 - 135, DOI: 10.1109/ICCNEEE.2015.7381443, ISBN 978-1-4673-7867-3, Publisher IEEE, Khartoum-Sudan.
18. Ahmed Abdelrahman A.A., Ahmed Abdallah M.E., Omer Elfaki E.E., Elnazir Adam A.H., "Microcontroller based design of rectifier for chemical surface treatment", IEEE International Conference on Computing, Control, Networking, Electronics and Embedded Systems Engineering (ICCNEEE15), 7-9 Sep. 2015, Pages: 162 - 167, DOI: 10.1109/ICCNEEE.2015.7381355, , ISBN 978-1-4673-7867-3 Publisher IEEE, Khartoum-Sudan.
19. Ahmed Abdelrahman A.A., Ahmed Abdalla M.E., Mohamed Ali, Hamza Ali, Akram Mohammed A.A., "Design and implementation of vehicle tracking and theft control system", IEEE International Conference on Computing, Control, Networking, Electronics and Embedded Systems Engineering (ICCNEEE15), 7-9 Sep. 2015, Pages: 181 - 186, DOI: 10.1109/ICCNEEE.2015.7381358, ISBN 978-1-4673-7867-3, Publisher IEEE, Khartoum-Sudan.
20. Ahmed Abdelrahman A.A., M. Ali Hamza, t. Zhong, f. Li, "Broadcast Searchable Keyword Encryption", The 13th IEEE International Conference on Ubiquitous Computing and Communications (IUCC2014), China.

Robotic Arm and Self-balancing Robot

1. Mohammed Osman Abuabeida, M.Sc. thesis, System Identification & Parameter Estimation for typical UAV, Karary University, Omdurman-Sudan; Graduated 2019.
2. Mohammed Abdelrazig Hussein, M.Sc. thesis, Design and Implementation of a self-balancing robot, Karary University, Omdurman-Sudan; Graduated 2018.
3. Hosham Wahballa Mahamed, M.Sc. thesis, Designing and Implementation of PID Controller to Mentor Robot, Sudan University of Science and Technology, Khartoum-Sudan; Graduated 2017
4. Mohammed Hussien, M.Sc., Design and Implementation of Six Axes Robotic Arm Controller Using Arduino and LabVIEW, Karary University, Omdurman-Sudan; Graduated 2016.
5. Internal Examiner, A.Moneim Ahmed, Ph.D., An analytical study of UAV Control, Karary University, Omdurman-Sudan; Graduated 2013.

6. Ahmed Abdelrahman A.A., Akram Mohammed A., Mohammed Abdalrazig H.A., Hosham Wahballa A.M., “Design and Implementation of Effective LQR Controller for Self-Balancing Robot”, 7th International Conference of Computer Science and Information Technology (SCCSIT’7), 7-9 January 2020, Khartoum, Sudan.
7. Ahmed Abdelrahman A.A., Ahmed Abdallah M.E., Akram Mohammed A., Mohammed Hussein M.I., Hosham Wahballa A.M., “Design And Implementation Of Robotic Arm Arduino Controller”, Sudanese Engineering Society Journal, 2016.

Future Research: Embedded Security

1. Attended the Riscure User Workshop, Amsterdam the Netherlands, 13–14 Sep. 2018.
2. Attended the tutorial “Counterfeit Integrated Circuits: Threats, Detection, and Avoidance”, Domenic J. Forte (University of Florida) and Rajat Subhra Chakraborty (Indian Institute of Technology, Kharagpur), Amsterdam the Netherlands, 9 Sep. 2018.
3. Attended the 20th Conference on Cryptographic Hardware and Embedded Systems, International Association for Cryptologic Research, Amsterdam the Netherlands, 2018
4. Attended the tutorial “Post-Quantum Cryptography for Embedded Systems”, Tim Güneysu, Taipei-Taiwan, 25 Sep. 2017.
5. Attended the 19th Conference on Cryptographic Hardware and Embedded Systems, International Association for Cryptologic Research, Taipei-Taiwan, 2017
6. Ahmed Abdelrahman A.A., Mohamed Ali, Hamza Ali, Ting Zhong, Fagen Li, Zhiguan Qin, "Broadcast Searchable Keyword Encryption", IEEE 17th International Conference on Computational Science and Engineering (CSE), 19-21 Dec. 2014, Pages. 1010-1016, DOI: 10.1109/CSE.2014.201, ISBN 978-1-4799-7980-6, Publisher IEEE, Chengdu-China.