

## **Nathir A. Rawashdeh, Ph.D.**

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Personal: Married with children  
Citizen of Finland & Jordan



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### **BIOGRAPHY**

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Nathir Ahmad Rawashdeh joined the Mechatronics Engineering Department at the German Jordanian University in September 2009, where he is an Associate Professor and the Acting Vice Dean of the School of Applied Technical Science. At the department level, he is the department Chair, and the academic Exchange Coordinator for student and faculty exchange with German partner universities. Dr. Rawashdeh received the Ph.D. and BS in Electrical Engineering from the University of Kentucky in 2007 and 2000, respectively. He also holds an MS in Electrical and Computer Engineering from the University of Massachusetts, Amherst. He spent two years as a Senior Software Engineer, in the laser division's Color Science and Imaging Department, at Lexmark International, Inc. in Lexington, Kentucky. Between 2000 and 2003, he was with The MathWorks, Inc. in Natick, Massachusetts working on software quality engineering for embedded DSP programming using MATLAB and Simulink. He has experience with European Union funded projects and served on several organizing and review committees. He is fluent in English, German and Arabic. His interests include unmanned ground vehicles, electromobility, robotics, image analysis, and color science.

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### **EDUCATION**

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#### **Ph.D. Electrical Engineering, 5/2007**

*University of Kentucky - Lexington, Kentucky*

Dissertation: "Characterization of defects in images with complex content"

#### **M.S. Electrical and Computer Engineering, 12/2003**

*University of Massachusetts- Amherst, Massachusetts*

Concentration: Computer Systems Engineering and Control.

#### **B.S. Electrical Engineering, 8/2000**

*University of Kentucky - Lexington, Kentucky*

Minor: Mathematics

#### **Undergraduate Student in Electrical Engineering, 8/1998**

*Technical University of Hamburg Harburg – Hamburg Germany*

Transferred 54 credit hours to the University of Kentucky

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## WORK EXPERIENCE

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**Associate Professor, 10/2018 – current (1 month)**  
*German Jordanian University – Dept. of Mechatronics Eng., Amman, Jordan*  
▪ Vice Dean, School of Applied Tech. Sci., 2/2018-current (10 months)

**Assistant Professor, 9/2009 – 9/2018 (9 years)**  
*German Jordanian University – Dept. of Mechatronics Eng., Amman, Jordan*  
▪ Academic Exchange Coordinator, 9/2009 – 2/2018 (8 years)  
▪ Chair of Department, 9/2011 - 9/2013 (2 years)  
▪ EU-Erasmus+ Project Coordinator, 8/2017 – current (1 year)  
▪ EU-Tempus Project Coordinator, 10/2011 – 10/2014 (3 years)  
▪ Consultant for KADDB – electric UGV 8/2017 – 5/2018 (10 months)

**Senior Software Engineer, 5/2007 – 8/2009 (2 years)**  
*Lexmark International, Inc. – Lexington, Kentucky*  
▪ Color Science and Imaging Department  
▪ Developed embedded code for color processing on laser printers  
▪ Translated into English several German standards proposals  
▪ Performed color and spectral measurements on print media  
▪ Designed psychovisual experiments for printer color image quality

**Teaching/Research Assistant, 1/2004 – 5/2007 (3 years)**  
*University of Kentucky – Lexington, Kentucky*  
▪ Electrical and Computer Engineering Department  
▪ TA: Computer Organization and Design, Logic Design Laboratory  
▪ RA: image quality; biomedical circuit design; non-destructive testing; metal forming pressure control.

**Quality Engineer, 9/2001 - 3/2003 (1.5 years)**  
*The MathWorks, Inc. – Natick, Massachusetts*  
▪ Product: Embedded Target for Texas Instruments c6000 DSP  
▪ Created test strategies, system level and unit tests in MATLAB & Simulink  
▪ Involved in planning software release cycles  
▪ Completed technical training for Texas Instruments c6x and c5x DSP's

**Applications Support Engineer, 9/2000 – 9/2001 (1 year)**  
*The MathWorks, Inc. – Natick, Massachusetts*  
Technical support for MATLAB & Simulink users; TA for product training.

**Industry Trainee, 1/1993 – 4/1993 (3 months)**  
*Daimler Benz – Hamburg, Germany*  
Metal workshop; Gas welding; Manufacturing; Electrical workshop.

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## RESEARCH INTERESTS

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- Unmanned Ground Vehicles; Autonomous Driving.
- Robotics; Visual Inspection.
- Image quality analysis; color science; Spectral Imaging.

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## TEACHING

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Taught undergraduate courses, German Jordanian University:

- Measurement and Instrumentation
- Digital Image Processing
- Automatic Control Systems
- Programmable Logic Controllers
- Modeling and Simulation - Mechatronics

Developed and instructed training courses:

- "Digital Image Processing using MATLAB and OpenCV", King Abdullah II Design and Dev. Bureau (KADDB), 15-hours, Dail - Jordan, July 2013.
- "MATLAB and Simulink for Engineers", German Jor. Univ., Amman, 2010.
- "Fixed-point Number Representations", The MathWorks Inc., USA, 2000.

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## JOURNAL PAPERS

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1. Abughalieh, K.M., Sababha, B.H. & Rawashdeh, N.A., "A video-based object detection and tracking system for weight sensitive UAVs" *Multimedia Tools and Applications*, pp 1-19, Springer (2018).
2. Atieh, Anas M.; Rawashdeh, Nathir A.; AlHazaa, Abdulaziz N. 2018. "Evaluation of Surface Roughness by Image Processing of a Shot-Peened, TIG-Welded Aluminum 6061-T6 Alloy: An Experimental Case Study." *Materials* 11, no. 5: 771 ,MDPI Switzerland.
3. Khraisat, W., Abu Jadayil, W., Rawashdeh, N., & Borgström, H. (2018). "The role of phosphorus in pore rounding of sintered steels". *Cogent Engineering*, 5(1), Taylor & Francis.
4. Nathir A. Rawashdeh, Jumana M. Abu-Khalaf, Walid Khraisat, Shireen S. Al-Hourani, "A Visual Inspection System of Glass Ampoule Packaging Defects: Effect of Lighting Configurations", *International Journal of Computer Integrated Manufacturing*, Taylor & Francis, 2018.
5. A. T. Al-Halhouli, Nathir A. Rawashdeh, M. Sanna, S. Büttgenbach, A. Dietzel, "Control, Modeling and Evaluation of a Magnetic Piston Miniature Pump", *Arabian Journal for Science and Engineering*, Vol. 42, Issue 11, pp 4693–4700, Springer Berlin Heidelberg, 11/2017.

6. Eyad M. Hamad, Nathir A. Rawashdeh, Mohammad F. Khanfar, Eslam N. Al-Qasem, Samer I. Al-Gharabli, "Neural Network Based Prediction of 3D Protein Structure as a Function of Enzyme Family Type and Amino Acid Sequences", *Jordan Journal of Biological Sciences*, 10 (2), pp 73-78, 2017.
7. Nathir A. Rawashdeh, Walid Khraisat, H Borgström, "Pinning Effect of Pores on Grain Growth in Sintered Steel", *Jordan Journal of Mechanical and Industrial Engineering*, 11 (2), pp 73 – 78, Hashemite University, 2017
8. Walid Khraisat, Nathir A. Rawashdeh, L. Nyborg. "Visualizing shear bands in 3-D using axisymmetric sample: An experimental study", *Journal of King Saud University-Engineering Sciences*, Vol. 29, Issue 3, pp 264-268, Elsevier, 2017.
9. Nathir A Rawashdeh, Osamah A Rawashdeh, Belal H Sababha, "Vision-based sensing of UAV attitude and altitude from downward in-flight images", *Journal of Vibration and Control*, SAGE Publications, London, Vol 23, Issue 5, pp. 827 – 841, July 2015.
10. K. M Gharaibeh, H. Kaylani, N. Murphy, C. Brennan, A. Itradat, M. Al-Bataineh, M. Aloqlah, L. Salhie, S. Altarazi, N. A. Rawashdeh, M. del Carmen Bas Cerdá, A. C. Peiró, A. Al-Zoubi, B. Harb, H. Bany Salameh, "A Masters Program in telecommunications management – demand-based program design", *European Journal of Engineering Education*, Taylor & Francis, Vol. 40, No. 3, pp 267-284, 2015
11. Samer I Al-Gharabli, Salem Al-Agtash, Nathir A. Rawashdeh, Khaled R Barqawi, "Artificial neural networks for dihedral angles prediction in enzyme loops: a novel approach", *International journal of bioinformatics research and applications*, Vol. 11, No. 2, pp. 153-161, Inderscience Publishers, Olney, Bucks, UK, Jan. 2015.
12. Nathir A. Rawashdeh, S. T. Love, and K. D. Donohue, "Hierarchical Image Segmentation by Structural Content", *Journal of Software*, Vol. 3, Issue 2, pp 41-15, Feb. 2008.
13. Nathir A. Rawashdeh, D. L. Lau, K. D. Donohue, S. T. Love, "Moiré analysis for assessment of line registration quality," *Journal of Imaging Science and Technology*, Vol. 51, No. 4, pp. 310-316, July/August 2007.
14. F. Abu-Farha, N. A. Rawashdeh, M. Khraisheh, "Superplastic Deformation of Magnesium Alloy AZ31 Under Biaxial Loading Conditions", *Materials Science Forum*, Vols. 551-552, pp 219-224, August 2007.

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## CONFERENCE PAPERS

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1. Nathir A. Rawashdeh, Samir A. Rawashdeh, "Effect of Structural Scene Content on Feature-Based Visual Odometry Performance", WCX World Congress Experience, SAE Technical Paper 2018-01-0610SAE Technical Paper 2018-01-0610SAE Technical Paper, 2018-01-0610, Detroit, 10-12 April 2018.
2. Nathir A Rawashdeh, R. M. Haddad, O. A. Jadallah, A. E. To'ma, "A person-following robotic cart controlled via a smartphone application: design and evaluation", 18'th International Conference on Research and Education in Mechatronics (REM), Germany - Wolfenbuettel 2017/9/14-15, IEEE.
3. M. Aladem, S. Rawashdeh, N. Rawashdeh, "Evaluation of a Stereo Visual Odometry Algorithm for Passenger Vehicle Navigation," WCX World Congress Experience , SAE International, 2017-01-0046, Detroit, MI, USA, April 2017.
4. Ala'aldeen T. Al-Halhouli, Nathir A. Rawashdeh, Mousaa Sanna, Stephanus Buttgenbach, Andreas Dietzel, "Development of a novel electromagnetic double action meso-scale pump", Research and Education in Mechatronics (REM'15), 16th Int. Conf. on, pp 250-254, IEEE, Bochum-Germany, Nov. 2015.
5. Nathir A. Rawashdeh, Tarek Tutunji, Mohammed Bani Younis, "Development of a Jordanian-European Double Degree Master Program in Mechatronics Engineering", The 15th International Workshop on Research and Education in Mechatronics (REM'14), El Gouna, Egypt, Nov. 2014.
6. Hudhaifa T. Jasim, Nathir A. Rawashdeh, "Design of a Dual Drive Feedback Motor Controller for Electric Vehicles", Proceedings of the Jordan Engineers Association, The 8th Jordanian International Electrical and Electronics Engineering Conference, Amman, 2013.
7. Nathir A. Rawashdeh, Hudhaifa T. Jasim, "Multi-sensor input path planning for an autonomous ground vehicle," Proceedings of IEEE, 9th International Symposium on Mechatronics and its Applications (ISMA13), 2013.
8. Nathir A. Rawashdeh, Martin Löffler-Mang, "Establishment of Mechatronics Engineering Professional Groups in Jordan", special session on National Mechatronics Associations, 13th International Workshop on Research and Education in Mechatronics, Paris, France, November, 2012.
9. Nathir A. Rawashdeh, Laith M. Alkurdi, Hudhaifa T. Jasim, "Development of a Low Cost Differential Drive Intelligent Ground Vehicle", Proceedings

of the IEEE, 8th International Symposium on Mechatronics and its Applications (ISMA12), 2012.

10. Nathir A. Rawashdeh, Mohammad Nazzal, Hazem Kaylani, Harald Loose, "Mechatronics Engineering Curriculum Enhancement at the German Jordanian University", 11th International Workshop on Research and Education in Mechatronics, pp. 205-210, Technical University of Ostrava, Czech Republic, 9-10 September 2010.
11. Nathir A. Rawashdeh, Mohamed N. Ahmed, "Detection of Monochrome Pages in Color Document Scans", NIP25, 25'th International Conference on Digital Printing Technologies, Color Science and Image Processing, Louisville, KY – USA, pp. 345-349(5), Society for Imaging Science and Technology, Jan. 2009.
12. Nathir A. Rawashdeh, Mohamed N. Ahmed, "Enhancement of Monochrome Text Quality in Color Copies", NIP25, 25'th International Conference on Digital Printing Technologies, Color Science and Image Processing, Louisville, KY – USA, pp. 366-370(5), Society for Imaging Science and Technology, Jan. 2009.
13. Osamah A. Rawashdeh, Nathir A. Rawashdeh, Belal H. Sababha, Hong Chul Yang. "Altitude and Attitude Estimation from Aerial Fisheye Video", The international Conference on Information and Communication Systems (ICICE), Paper# 419, 2009.
14. Rami AbouSleiman , Belal Sababha, Hong Chul Yang ,Nathir A. Rawashdeh, and Osamah Rawashdeh, "Real-Time Estimation of UAV Attitude from Areal Fisheye Video" American Institute of Aeronautics and Astronautics Infotech@Aerospace Conference, AIAA 2009-1933, 2009.
15. Nathir A. Rawashdeh, S.T. Love, K.D. Donohue, "An image quality motivated complex content classifier", Proceeding of the IEEE, SoutheastCon 2007, pp. 514-518, 3/2007
16. N. A. Rawashdeh, O. Martínez, M. Quiroga, K.D. Donohue, "Characterization of printer banding in regions of complex image content", Proceeding of the IEEE, SoutheastCon 2007, pp. 433-438, 2007.
17. Nathir A. Rawashdeh, I. W. Shin, K. D. Donohue, and S. T. Love, "Printer banding estimation using the Generalized Spectrum", Proceeding of SPIE Vol. 6059, 60590F, Electronic Imaging Science and Tech., Image Quality and System Performance, 2006.
18. G. Chandler, D. Jackson, A. Groves, O. Rawashdeh, Nathir A. Rawashdeh, W. Smith, J. Jacob, and J. Lump, "A Low-Cost Control System for a High-Altitude UAV", IEEEAC paper 1438. IEEE Aerospace Conference. Big Sky, Montana. March 2005.

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## REPORTS

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1. K. Gharaibeh, H. Kaylani, B. Harb, H. Bany Salameh, O. Badarneh, M. Al Oqlah, S. Tarazi, N. Rawashdeh, "A Workshop on Curriculum Development of Telecommunications Engineering Programs – An Industrial Perspective", Tempus Project No. 511075, 2011 Report.
2. H. Kaylani, K. Gharaibeh, M. Smadi, A. Tradat, M. Bataineh, M. Al Oqlah, S. Tarazi, N. Rawashdeh, "Competition Analysis of Masters Programs in Telecommunications Engineering and Management", Tempus Project No. 511075, 2011 Report.
3. Nathir A. Rawashdeh, Ann McCarthy, "English Summary of the Proposed German Standard NI28N382 EDIN33871-2", Color Science and Imaging Department, Imaging Systems Engineering, Lexmark International, Inc., Lexington, Kentucky, Internal Report, April 2008.
4. Nathir A. Rawashdeh, "Summary English Translation of the German Standard Draft DIN33872-1 to 6: 2007", Color Science and Imaging Department, Lexmark International, Inc., Lexington, Kentucky, Internal Report, 1/2008.
5. Nathir A. Rawashdeh, Ray Clark, Vien Khong, "Acceptable Color Range of Black Toner", Color Science and Imaging Department, Lexmark International, Inc., Lexington, Kentucky, Internal Report, January 2008.
6. Nathir A. Rawashdeh and Kevin Donohue, "Circuit Design for a Current Driving Tissue Stimulator", Electrical and Computer Engineering Department, submitted to Abhijit Patwardhan, Center for Biomedical Engineering, University of Kentucky, Summer 2004.

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## PRESENTATIONS AND POSTERS

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1. Mechatronics Booth, Opening of German Week, Museum of Jordan, 9/2017.
2. Poster, "The Smart Cart", Career Day, German Jordanian University, 2016
3. Invited Speaker, Robotics Day, German Jordanian University, 11/2016
4. Robotics Display for HRH the Queen of Jordan, German Jordanian Univ., 5/2016
5. Al-Qaraghuli, Rawashdeh, "Indoor security ground robot based on Robotino", 8'th Open Arab Robotics Competition, poster, Dead Sea, Jordan, 3/2015.
6. N. A. Rawashdeh, T. Tutunji, "Double Degree Mechatronics Master Program: Call for German–Jordanian Cooperation", The seventh annual meeting of the German Mechatronics Specialists, Hochschule Bochum, Germany, 11/2013.

7. Nathir A. Rawashdeh *et. al.* "Panel Discussion 1: Trends in Mechatronics Engineering for Industry", Panelist, 2013 IEEE 9'th International Symposium on Mechatronics and its Applications (ISMA), Amman, April 2013.
8. Rakan Abu Shanab, Nathir A. Rawashdeh, "Sand-Fox: an Autonomous Ground Vehicle for Navigation Based Surveillance and Tele-Operation Tasks", 1'st Conference on Research and Student Projects, project booth, Princess Sumayah University for Technology, Amman – Jordan, 12/2012.
9. Hudhaifah Jasim, Nathir A. Rawashdeh, "Jo-Car2: an autonomous ground vehicle", 1'st Arab Robotics Conference, presentation, Amman – Jordan, 10/2012.
10. Nathir A. Rawashdeh, "Overview of Mechatronics Engineering, and Jordanian Job Market Considerations", invited speaker, Workshop: my path into the workforce, Jordan Engineers Association, Amman – Jordan, 17 October 2012.
11. Hudhaifah Jasim, Mahmood Shubbak, Rakan Abu Shanab, Nathir A. Rawashdeh, "Sand-Fox: An Autonomous Ground Vehicle for Navigation Based Surveillance and Tele-Operation Tasks", invited project, Special Operations Forces Exhibition and Conf. (SOFEX), poster, Amman, May 2012.
12. Tareq Mamkegh, Amad Hindash, Mohammad Al-Jabari, Nathir A. Rawashdeh, "Walking Robot all Terrain Hexapod", 4'th National Technology Parade, Robotics Track, ID 51, poster, Amman, 2011.
13. B. Sababha, R. AbouSleiman, H. Yang, and O. Rawashdeh, N. Rawashdeh, "Attitude Estimation from Aerial Fisheye Video", Michigan Robotics Week, Ann Arbor, poster, April 2011.
14. Abdallah Zaid Alkilani, Saifalla Qasim, Nathir A. Rawashdeh, Mohammad Nazzal, "Remote Sensing Quadrotor UAV", Mechatronic Karlsruhe 2010, Karlsruhe, Germany, poster, May 2010.
15. Abdallah Zaid Alkilani, Saifalla Qasim, Mohammad Nazzal, Nathir A. Rawashdeh, "Quadrotor Flying Robot (Quattrino)", National Technology Parade 2010, JUST, Jordan, poster, May 2010.
16. Nathir A. Rawashdeh, "Status and Expansion of Cooperation Between Mechatronics Engineering at the German Jordanian University and it's German Partner Universities", GJU-Mechatronics-Network meeting, Hochschule Bochum, Bochum, Germany, presentation, 15 January 2010.
17. Nathir A. Rawashdeh and Mohamed Ahmed, "Color/Mono Page Detection in Copies", Imaging Summit, Lexmark International, Inc., Lexington, Kentucky, presented on 13 July 2008.



18. Mohamed Ahmed and Nathir A. Rawashdeh, "Blank Page Detection in a Copy Pipeline", Lexmark Research and Technology Symposium, Poster, 11/2008.
19. Nathir A. Rawashdeh and Ray Clark, "Psychovisual Evaluation of Black Toner Formulations", Lexmark Research and Tech. Symposium, Poster, 11/ 2008.
20. Nathir A. Rawashdeh, "Acceptable Color Range of Black Toner", Imaging Summit, Lexmark International, Inc., Lexington, KY, presentation, 1/2008.
21. N. A. Rawashdeh, "Moiré Analysis for Assessment of Line Registration Quality", Imaging Summit, Lexmark International, Kentucky, USA, 11/2007.
22. Nathir A. Rawashdeh, "Defect Characterization in Images with Complex Content", Imaging Summit, Lexmark International, Lexington, Kentucky, presented 18 June 2007.
23. Fadi Abu-Farha, Muhammed Nazzal, Nathir A. Rawashdeh, and Marwan Khraisheh, "On the Post-Superplastic Forming of the AZ31 Mg Alloy", Centre for Manufacturing, Mechanical Eng. Department, University of Kentucky, Engineering Day, poster, 2007.
24. Nathir A. Rawashdeh and Kevin Donohue, "What is Image Quality Research?", Visual Systems Laboratory, Electrical and Computer Engineering Department, University of Kentucky, Engineering Day poster, February 2006.
25. Kevin Donohue and Nathir A. Rawashdeh, "Image Quality Ruler and Macro-Uniformity", Visual Systems Lab. , Dept. of Electrical & Computer Eng., University of Kentucky, Department of Psychology, December 2005.
26. Nathir A. Rawashdeh, Il-Won Shin, and Kevin Donohue, "A Wiener Filter for Granularity Estimation of Printer Output", Visual Systems Laboratory, Electrical and Computer Engineering Dept., University of Kentucky, department seminar, Nov. 2004.
27. Nathir A. Rawashdeh and Kevin Donohue, "Assessment of Image Quality, An Overview", Visual Systems Laboratory, Electrical and Computer Engineering Department, University of Kentucky, department seminar, July 2004.
28. Nathir A. Rawashdeh, et al, "Big Blue II Design Review", Actuators and Sensors Team, Departments of Electrical and Computer Engineering, and Mechanical Engineering, presented at ILC Dover, Colorado, USA, 2/2004.

29. Nathir A. Rawashdeh, "Summary of TI's C6000 Integration Workshop", DSP Hardware Group, The MathWorks, Inc., Natick, Massachusetts, July 2002.
30. Nathir A. Rawashdeh, "Fixed-Point and Floating-Point Number Representations in Computers and Digital Hardware, An Overview", Engineering Development Group, Professional Development Class, The MathWorks, Natick, Massachusetts, June, 2001.

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ATTRACTED FUNDING (total about \$US 2.4 million)

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- 5,000 JD (\$ 7,000), King Abdullah II Fund for Development (KAJD), "Development of a situational awareness and remote control system for a desert UGV", 2017.
- 36,318 Euro (\$ 41,766) Erasmus+ Bochum (8/2017-8/2019), European Union, "Mobility grant for students, trainers and faculty in mechatronics engineering", University consortium: Hochschule Bochum (grant holder, Germany); German Jordanian university; Philadelphia University.
- 1000 JD (\$ 1500), German Jordanian University, Jan. 2016, fund to develop an indoor mail robot based on Festo Robotino, mechatronics graduation project.
- 18,500 JD (\$ 26,400), co-investigator, German Jordanian University, Research grant project # SNRE 20/2015, "Utilizing hyperspectral imaging techniques to evaluate key surface water quality parameters", June 2015.
- 20,816 Euro (\$ 23,000), co-investigator, The Higher Council for Science and Technology, STRD II – Jordan contract no. AR-17, "Utilizing hyperspectral imaging techniques to evaluate key surface water quality parameters", January 2015.
- 1500 JD (\$ 2140), German Jordanian University, September 2011, fund to develop a wood engraving CNC machine, mechatronics graduation project.
- 1000 JD (\$ 1500), grant, Applied Scientific Research Fund (ASRF), development of an intelligent ground vehicle, 2012.
- 6,000 JD (\$ 8,500), King Abdullah II Fund for Development (KAJD), Development of an Unmanned Patrol Ground Vehicle for Special Operations Forces Exhibition and Conference (SOFEX), 2012.
- 1 million Euro (\$ 1,15 million), TEMPUS, Education, 51668-TEMPUS-1-2011-1-DETEMPUS-JPCR, "Development of Joint International Master Degree and Life Long Learning Framework in Mechatronics", 2011, member of a Jordanian-European-Egyptian Consortium of Universities including the German Jordanian University. Grant holder: Bochum University of Allied Science, Germany.

- 5,000 JD (\$ 7,000), King Abdullah II Fund for Development (KAFD), Development of an Intelligent Ground Vehicle, 2011, mechatronics graduation project.
- 19,000 JD (\$ 27,000 ), German Jordanian University, Research Grant, Development of a Machine Vision Systems for Industrial Inspection and Control applications, 2011.
- 1 million Euro (\$ 1,15 million), TEMPUS, Education, Audiovisual and Culture Executive Agency, EACEA/28/09, “An Industry Oriented MSc. Program in Telecommunications Engineering-Towards an EU Approach”, 2010, member of a Jordanian-European Consortium of Universities including the German Jordanian University. Grant holder: Yarmouk University, Irbid – Jordan.
- 1500 JD (\$ 2140), German Jordanian University, January 2010, fund to develop an intelligent ground vehicle, mechatronics graduation project.
- 2500 Euro (\$ 3400), Deutscher Akademischer Austausch Dienst (DAAD), May 2010, funds to present a quadrotor unmanned aerial vehicle at the Mechatronic Karlsruhe 2010 conference, mechatronics graduation project.

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#### ADVISING: BACHELOR GRADUATION PROJECTS

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1. Leen Nijim, “Automotive Door Latch Testing Machine”, Bachelor Graduation Project, Mechatronics Eng., German Jordanian Univ., 2018, with Brose SchliessSysteme - Germany, co-advisor.
2. Ghazi Altaher, Yazan Banna, “KUKA Bottling Robot Prototype”, Bachelor Graduation Project, Mechatronics Eng., German Jordanian Univ., 2017, with Nestle Water Company - Jordan, co-advisor.
3. Laith Salameen, Salman Darbisi, Abdelkarim Estatieh, "KUKA Robotic Arm Application Implementations", Bachelor Graduation Project, Mechatronics Eng., German Jordanian Univ., 2017, advisor.
4. Bader AL Afghani, Hisham Alwanni, Nazeeh Sheikh Ali, "MailBot: An Autonomous Indoor Mobile Service Robot", Bachelor Graduation Project, Mechatronics Eng., German Jordanian Univ., 2016, advisor.
5. Hadi Abu-Snineh, Robot Camera System Linking and Object Teaching Using an Established Machine Vision System (Imageinspector), Bachelor Graduation Project, Mechatronics Eng., German Jordanian Univ. & 3D motion GmbH, Fürth-Germany, 2016, co-advisor.
6. Abdelhadi To'ma, Omar Jadallah, Ramez Haddad, Smart hands-free cart, Bachelor Graduation Project, Mechatronics Eng., German Jordanian Univ., 2016, advisor.

7. Faris Qutaishat, Al-Bara Abu Shaqra, KUKA KR6 R900: Robotic Arm Configurations for Pharmaceutical Industry and Research Applications, Bachelor Graduation Project, Mechatronics Eng., German Jordanian Univ., 2016, advisor.
8. AbdIrhmman Abu-Helweh, Hardware-in-the-loop Simulation of a Recycling Sorting Station using Siemens 300 PLC's and FESTO's CIROS, Bachelor Graduation Project, Mechatronics Eng., German Jordanian Univ., 2015, advisor.
9. Khaled Al-Assadi, Mohammad Bani Ata, A robotic tennis ball cannon, Bachelor Graduation Project, Mechatronics Eng., German Jordanian Univ., 2015, advisor.
10. Ammar Al-Qaraghuli, Indoor security ground robot based on Robotino, Bachelor Graduation Project, Mechatronics Eng., German Jordanian Univ., 2015, advisor.
11. Ibrahim Musleh, Omar Thawabi, Tele-presence Robot, Bachelor Graduation Project, Mechatronics Engineering, German Jordanian University, 2014, advisor.
12. Omar Ibrahim Diab, Implementing the Construction and Controller Design of a Cable Robot, Fraunhofer Institute for Manufacturing Eng. and Automation IPA Stuttgart, Germany, German Jordanian University, November 2013, co-advisor.
13. Ali Tillawi, Automated Quality Inspection of Bottle Crates Through Image Processing, Bachelor Grad. Project, Coca Cola Co., German Jordanian Univ., 7/2013, co-advisor.
14. Abdelrahman Arteish, Bassel Masannat, Nader Al-awamleh, A Vertical Axis Wind Turbine (VAWTious), Bachelor Graduation Pro., German Jordanian U., 2013, advisor.
15. Odai Abu-Zaid, Hani Elshatarat, Saeed Anshasi, NeuroChair: Brain Controlled Wheelchair, Bachelor Graduation Project, German Jordanian Univ., 2013, advisor.
16. Saeed Kundos, Robotic Vacuum Cleaner, Bachelor Graduation Project, German Jordanian University, November 2012, advisor.
17. Ala'a Dweikat, Majd Al Yazori, Sa'ed AlDaraghmeh, MotoChair: A Motorized Voice-operated Wheelchair, Bachelor Grad. Proj., German Jordanian U., 2012, co-advisor.
18. Ismail Shqerat, Motasem Khreist, 2D Woon Engraving CNC Machine, Bachelor Graduation Project, German Jordanian University, October 2012, advisor.
19. Hudhaifah Jasim, Mahmood Shubbak, Rakan Abu-Shanab, Jo-Car2 Unmanned Ground Vehicle, Bachelor Grad. Project, German Jordanian Univ., May 2012, advisor.
20. Laith Al Khatatbeh, Omar Al Zughoul, Eva Al Halabi, Tele-operated Suspended Window Cleaning System, Bachelor Graduation Project, German Jordanian University, February 2012, advisor.

21. Saed Afghani, Bachelor Graduation Project, Development of an Automatic Axial Switch Test Setup, Phoenix Contact, Germany, November 2011, co-advisor.
22. Mohammad Abu Hamdah, Bachelor Graduation Project, Image Processing for Detection of Hybrid Vehicle Functionality in Conjunction with Hardware-in-the-Loop Simulator, Audi AG, Germany, October 2011, co-advisor.
23. Ali Yemek, Abdallah Haj-Abed, Bachelor Graduation Project, Thought Controller Robotic Arm Prosthesis, Department of Mechatronics Engineering, German Jordanian University, August 2011, advisor.
24. Ahmad Bino, Tariq Adaileh, Bachelor Graduation Project, Competition Specific Intelligent Ground Vehicle, Department of Mechatronics Engineering, German Jordanian University, May 2011, advisor.
25. Tareq Mamkegh, Mohammad Al-Ja'abary, Ahmad Hindash, Bachelor Graduation Project, Teleoperated Hexapod Walking Robot Platform, Department of Mechatronics Engineering, German Jordanian University, May 2011, advisor.
26. Zaid Jildeh, Bachelor Graduation Project, Microcontroller-Based Heliostat Control for Solar Applications, Department of Energy/Mechatronics Engineering, German Jordanian University, January 2011, co-advisor.
27. Malik Sabbah, Bachelor Grad. Project, Two Wheeled Self Balancing Scooter, Department of Mechatronics Engineering, German Jordanian Univ., 1/2011, advisor.
28. Hamzeh Momani, Tarek Al-Qudah, Adib Kilani, Bachelor Grad. Project, Chess Robot, Department of Mechatronics Engineering, German Jordanian Univ., 8/2010, advisor.
29. Rabee Al-Gharableh, Emad Al-Ibraheem, Bachelor Graduation Project, Autonomous Unmanned Ground Vehicle, Department of Mechatronics Engineering, German Jordanian University, May 2010, advisor.
30. Abdalla Zaid Alkilani, Saifallah Qasim, A Quadrotor Unmanned Aerial Vehicle, Bachelor Graduation Project, German Jordanian Univ., 5/2010, co-advisor.
31. Mohammad Bani Mustafa, Anas Kanakri, Arkan Al-Shergatli, A Remote Controlled Landmine Detection Vehicle, Bachelor Graduation Project, Department of Mechatronics Engineering, German Jordanian University, May 2010, co-advisor.

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#### PROFESSIONAL ACTIVITIES

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- Track Co-chair : Robotics, Control and Mechatronics, JEEIT 2019 conference, Amman 4/2019.
- Member, Higher Edu. Accreditation Comm., electrical eng. review, Amman, 2017

- Consultant for King Abdallah II Design and Development Bureau (KADDB), electrification and tele-operation of an unmanned dune buggy, 8/2017 – 3/2018.
- Technical Committee member, founding of Prince Hussein Univ., Amman, 2017.
- Chair of Committee to develop a Master program, German Jordanian Univ., 2017
- Steering Committee member, 18'th International Workshop on Research and Education in Mechatronics (REM'17), Germany, 2017.
- Steering Committee member, 10'th National Technology Parade, GJU 2017
- Vice-Chair, IEEE Jordan Chapter of Robotics and Automation, 2013-2015 (2 years)
- International Scientific Advisory Board, The 15th International Workshop on Research and Education in Mechatronics (REM'14), Egypt, 2014
- Symposium Chair, 9'th International Symposium on Mechatronics and its Applications (ISMA13), German Jordanian University, Jordan, April, 2013
- Organizing Member, "A Workshop on Curriculum Development of Telecomm. Eng. Programs – An Industrial Perspective", Oct. 2011, Amman. Tempus Project
- Steering Committee Member, "8'th Jordanian International Electrical and Electronics Engineering Conf.", JIEEEC 2012, Jordan Engineers Association.
- Organizer, "IEEE Jordan Section – Professional Activities Summit 2011", Amman.
- Steering Committee Member, "2011 IEEE Jordan Conference on Applied Electrical Engineering and Computing Technologies", AEECT, Amman, Dec. 2011
- Member of Advisory Accreditation Committee, Electrical Engineering Chapter, Jordan Engineers Association, 2010 – 2013 (3 years)
- Vice Chair, IEEE Jordan Section - GOLD Affinity Group, 8/2011 – 8/2012 (1 year)
- University Council Member, German Jordanian University, 2010 /2012 (2 years)
- Reviewed papers for:
  - Journal of Vibration and Control
  - European Journal of Engineering Education
  - International Workshop on Research and Edu. in Mechatronics
  - IEEE Jordan Conf. on Applied Elect. Eng. and Computing Technologies
  - The 8th IEEE-GCC 2015 Conference and Exhibition 2/2015, Oman.
  - The Journal of Intelligent and Fuzzy Systems
  - The IEEE Transactions on Image Processing
  - The Jordan Journal of Mechanical and Industrial Engineering
  - The Optics Communications Journal

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## ASSOCIATIONS

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- Member, SAE International
- Senior Member, Institute of Electrical and Electronics Engineers (IEEE)
- Member, International Society for Optical Engineering (SPIE)
- Operator, American Radio Relay League (ARRL), technician class, call-sign "ki4fer"
- Member, Jordan Society for Scientific Research (JSSR)
- Jordan Contact, Network on Research and Education in Mechatronics (REM)
- Member, Jordan Engineers Association (JEA)
- Founding Member, 1'st Chair, Jordan Mechatronics Engineers Society (JMES), Jordan Engineers Association (JEA), June 2012.

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## HONORS

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- Teaching Excellence Certificate, Department of Mechatronics Engineering, German Jordanian University, 2012/2013
- University of Bath Best Project Award, UK 2010, R. Gharableh, project advisor
- Mechatronics-Karlsruhe AWARD, 2010, Remote Sensing Quadrotor, co-advisor
- 1'st Place award, National Technology Parade, 2010, Flying Quadrotor, co-advisor
- Kentucky Graduate Scholarship, Spring and Fall of 2004
- Member of IEEE Eta Kappa Nu (IEEE-HKN) engineering honor society
- The Chancellor's List of 2006
- The Dean's List of Spring 2000, University of Kentucky

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## SKILLS

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- Languages: Fluent in written and spoken English, German and Arabic
- Programming: MATLAB, C/C++, MIPS Assembly, Verilog, PERL, PostScript
- Software: MATLAB & Simulink, Maple, TI CCS, Xilinx ISE, Unix
- Hardware: machine vision, data acquisition, sensors, actuators, process control, DSP target, lighting booth, color measurement, drum scanner