Yahya Koraz (Ph.D.)

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Electrical Engineer

BSc. MSc. Ph.D. Electrical Engineering graduate

HIGHLIGHTS OF QUALIFICATIONS

- More than 20 years experience in the field of Electrical engineering including developing specification and test plans for power systems, generators, power protection systems
- Ph.D. researcher in the field of Micro Energy Grids (MEG), HAZOP analysis, Fault Tree Analysis (FTA), Later of Protection Analysis (LOPA), Fault Diagnosis and prognosis of high uncertainty systems and energy systems resilient operation
- Developed risk analysis tools in solving complex system safety requirements and provided schedule estimates on RAMS tasks
- Wide knowledge on electrical motors types such as induction, permanent magnetic DC (PMDC), synchronous and non-synchronous; in term of operation, performance and efficiency under different operating conditions and controllers such as pulse width modulation (PWM) and variable speed drivers (VFD)
- Experienced in utilizing and developing the quality control, time management and assurance management principles, such as Six Sigma method, throughout the project phases and succeeded in meeting and exceeding higher management/clients expectations at Haramain High-speed Rail Jeddah Station project for HITACHI LTD
- Developed comprehensive test plans for hardware and software parts of control systems to validate the safety and risk analysis domain.
- Professional skills in execution of test plan software in the loop (SIL) and hardware in the loop (HIL) using numerous analysis software such as MATLAB, Simulink, Arduino, PLC and FPGA programming (VHDL)
- Experienced with closed-loop controls: PID, adaptive, fuzzy logic , neural network, wavelet transformer and sensors
- Self-studied of local and international standards such as BS 7671, NFPA 70 & 72, Dubai electricity code and Ontario electrical safety code and a PEO license in process
- Granted A+ grade in all graduate courses at UOIT including Quality Management and Safety Instrumented System (SIS). The study material was based on design of Six Sigma (DFSS) and PMP methods that illustrated in PMBOK
- Professional skills in documentation, communication and data analysis software such as Microsoft Office (Word, PowerPoint, Excel, Access, Publisher and Outlook)
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ACHIEVEMENTS

- Improved the value engineering analysis led to more than 10% reduction of the project's budget by re-engineering the project's design and optimizing the manpower histogram with respect to the site progress requirements
- Published 17 academic papers in peer-reviewed engineering journals, conferences. Including academic book and book chapter
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AWARDS

- Awarded a FEAS Graduate Scholarship 2018-2019
- Experiential learning award UOIT-2018
- Mitacs research internship May-2017
- Awarded a FEAS Graduate Scholarship 2016-2017
- ICCD Student Mobility Award to Italy 2016
- Best paper award at IEEE conference SEGE 2017 (14-17 Aug. 2017) Canada

RELEVANT SKILLS AND EXPERIENCE

Management **4 years**

- Led the engineering, procurement, QA/QC and construction team of more than 1200 technicians and 50 qualified engineers to guarantee all design documents are as per the local codes, standards and technical requirements
- Worked closely with multi-disciplined engineering teams to understand functional requirements and implement appropriate solutions.
- Supported the implementation of project management plans, resources, and timing requirements by using waterfall and Agile scrum methodologies
- Planned and executed large projects with closely monitored the construction activities and attended the site meetings
- Adjusted projects priorities and milestones based on customers' needs, resource availability, and job requirements.
- Ensure incorporating RAMS requirements into the supplied equipment to engineering
- Provided functional guidance on preparation of inspection and test plans

Graduate Research **4 years**

- Developed a Failure Mode and Effects Analysis (FMEA), HAZOP matrix and availability models to support risk analysis for micro energy grid (MEG) and proposed designs of two advanced risk modeling approaches namely fault tree (FTA) and layer of protection analysis (LOPA) based on the reliability block diagrams
- Contributed a resilience risk performance index (RRPI) that consists information of occurrences, severities and emissions (socio-econo-ecological) of each hazard event to provide a clear informative statics for the design engineers and decision makers.
- Calculated equipment failure rates using data from various sources and develop reliability block diagrams based on Bayesian belief network (BBN) and fuzzy logic (FL) methodologies
- Implemented various Simulink models, Matlab codes, real-time interfaces, functional operations, and test case studies that utilizes graphical and traditional software methods.
- Proposed selected independent protection layers (IPLs) to achieve resilient MEG, by increasing safety integrity level (SIL).
- Offered an effective MEG condition monitoring, fault diagnosis and prognosis approach by using Intelligent reasoning algorithm based on Bayesian belief network (BBN) to achieve a reliable and economic energy system that covers the energy demand
- Suggested an optimal design and management technique for Micro Energy Grid using MILP and Interior Search Algorithm (ISA) optimization methodologies
- Supported calibration and error recognition process to achieve better system's performance
- Assessed test results and utilized different verification methods to evaluate the proposed / modified methodologies
- Enhanced the hardware in the loop (HIL) benches by using FPGA and Arduino platforms

Electrical Engineering **7 years**

- Prepared concept design and completed load calculations, schematics, equipment selection and system concept report
- Responsible for all aspects of the assigned projects from concept development to construction package completion
- Applied QA criteria and industry standards to provide a corrective action and a preventive plan as per nonconformity note (NCN) in incoming inspections
- Provided test and control plans including detailed quality specifications for CTQ features
- Supervised the engineering activities in all aspects thorough attention in reviewing QA/QC procedures, dealing with on-site tribulations and recommends the solution
- Implemented numerous MV, LV electrical systems such as LV panels and MCC HVAC boards
- Assured proper coordination with other on-site disciplines namely engineering teams, project teams and venders representors
- Developed maintainability analyses and performed other required maintainability tasks;

Lecturer **7 years**

- Taught for numerous major classes at electrical engineering faculty, namely Analog Control Systems, Digital Control Systems, Numerical, Electrical Circuits, Power System, Machine system, Artificial Intelligent Systems, Numerical Analysis, Probability, Problem Solving and energy conversation courses
- Developed curriculums, materials, and experimental lab. for analog control, digital control and energy conversation courses
- Created and improved the experiments for electronics laboratory and real-time control laboratory
- Supervised the final Bachelors' project for 15 students

EMPLOYMENT HISTORY

➢ Ph.D. Graduate Researcher	University of Ontario (UOIT)	2015-till date
➢ Deputy Project Manager	Hitachi Ltd.	2012-2014
➢ Construction Manager	RAS Engineering	2010-2012
➢ Senior Electrical Engineer	Al Hashemi	2007-2010
➢ University Lecturer	University of Mosul	2001-2007
➢ Industrial Electrical Design Engineer	Al-Hadbaa Electrical Company for Generators and Control System	2001 2003
➢ Maintenance Electrical Engineer	Al-Copra plastic Industry	1996-2001

EDUCATION & CERTIFICATION

Ph.D. (In Process) in Electrical Engineering and Computer Science, FEAS, thesis title "Risk-Modeling Tools for Designing Resilient Micro Energy Grids".	University Ontario Institute of Technology (UOIT)	(Defence done in Jan. 2019)
Quality Management Graduate Course	University Ontario Institute of Technology (UOIT)	2015
Safety Instrumented System (SIS) Graduate Course	University Ontario Institute of Technology (UOIT)	2015
Functional Safety-Practical Implementation & best practices (IEC 61508/61511 STANDARDS)	RAMSP	2015
Personal Brand Training	Drake International	2015
Certified as Chief Electrical Engineer (Class A)	ADDC	2011
Engineer's Registration Certificates	The Regulation and Supervision Bureau	2011
Switchgear, Home Automation and Light Control Training	LEGRAND	2010
Certified MEP Projects Coordinator	ADNOC	2010
Ph.D. Degree holder in Electrical Engineering Thesis title "Identification and Control of Robot Manipulator Using Adaptive Fuzzy Wavelet Network"	University of Baghdad	2005
MSc. And BSc. Degrees in Electrical Engineering Thesis title "Signal and Image de-noising using Wavelet Transform"	University of Mosul	2001

MEMBERSHIP AND ENGINEERING ACTIVITY

- Eligible for Professional Engineers Ontario's License (PEO) file # 100218542 (expected to be granted in Feb. 2019)
- IEEE membership no. 94021228, 2017.
- Reviewer since Jan. 2017 at International Journal of Electrical Power and Energy Systems (IJEPES), ELSEVIER, Impact Factor 3.474
- Reviewer since Oct. 2017 at Reliability Engineering and System Safety, ELSEVIER, I.F. 3.461
- Reviewer since Aug. 2017 at Energies (ISSN 1996-1073; CODEN: ENERGA) Journal, MDPI. I.F. 2.262

- Reviewer since Aug. 2017 at Sustainability (ISSN 2071-1050; CODEN: SUSTDE) Journal, MDPI. I.F. 1.789

VOLUNTEER AND SOCIAL ACTIVITY

Vice president-external of Graduate Student Council (GSC) at University of Ontario Institute of Technology (UOIT) for the academic year 2018-2019

References Provided Upon Request