Akram Abdullah

Electrical Engineer

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EDUCATION

Sep. 2016 – Jun.. 2018 University of Toronto
MEng in Electrical Engineering

Sep. 2011- Jun. 2016 King Fahd University (KFUPM)
BSc in Electrical Engineering (Honors Student)

Sep. 2015- Dec. 2015 Georgia Institute of Technology
Student Exchange Program

TECHNICAL SKILLS

- Well-rounded electrical engineering background in Energy Systems, Power Electronics, Control System Design and Electronics
- Core Skills : MATLAB, Simulink, PSPICE, PSCAD, PLECS, NovaTCAD, AutoCAD, DipTrace, Adobe Photoshop and Microsoft Office.
- Experienced in PLC Ladder Diagram Programming (using Siemens S7-300).
- Have worked with C, Python, HTML5, CSS3, JavaScript, Bootstrap 4 and Git.

SOFT SKILLS

- Had a course in project management fundamentals.
- Quick learner, self-motivated and hard-working individual.
- Excellent teamwork, critical thinking and problem solving skills.
- High sense of responsibility and commitment.

PROJECTS

During Graduate Program:

1	**Project Title:** Design of VSC that achieves PFC and load balancing for unbalanced load.	**Course:** Space Vector Theory and Control
	Description: In this project, we utilized voltage source converter to do load balancing and power factor correction for unbalanced three phase load. We had to design the control loop using space vector theory and write the control code algorithm in embedded C programming language. The system was simulated using PSCAD software and then implemented using hardware components, VSC and RTLinux system to show that system is operational.	
2	**Project Title:** Design of a Light Jar.	**Course:** Power Management for Photovoltaic Systems
	Description: In this project, we designed a light jar, which is a device that harvests energy using solar panels during day time and store it in supercapacitor in order to be used later during night time to illuminate LED lights. The system, through closed loop control, does MPPT as well as regulates the output voltage to maintain a certain illumination level.	

3	**Project Title:** Simulation of fabrication process and electrical characteristics of Si IGBT.	**Course:** Power Semiconductor Devices and Applications
	Description: Using NovaTCAD, we simulated the fabrication process of a Si-based IGBT including all the steps (depositing, diffusion, itching …etc.). After device fabrication, we examined the electrical characteristics of the device (breakdown voltage …etc.)	
4	**Project Title:** Generator Maintenance Scheduling Optimization in Ontario.	**Course:** Power System Optimization
	Description: Using mixed integer linear programming, optimal maintenance scheduling solution for fossil fuel units in Ontario was found. The problem was formulated with economic criterion objective function and with several other constraints. (CPLEX was used for optimization).	
5	**Project Title:** Project Management Plan: Residential Solar PV System Installation.	**Course:** Introduction to Energy Project Management
	Description: The aim of this project was to develop a plan for installing a residential PV system, so we had to go through all project management stages from initiation to planning. The plan includes, but not limited to Cost-Benefit Analysis and Risk Analysis.	

During Undergraduate Program:

- Determining object speed using Doppler Effect for indoor applications. (Capstone Project)
- Designing variable DC power source.
- Designing inverter chain using Cadence & HSPICE/Specter for (Digital Integrated circuits) course.

EXPERIENCE

- Worked at KFUPM Research Institute under power group for 4 months in 2015. I worked on a project concerning "Power Quality Analysis of a Steel Plant".
- Worked on multiple Web Development projects using Flask (web framework), PostgreSQL and bootstrap 4.
- Working at Walmart as Fulfilment Associate.

REFERENCES

"References are available on request"