HASSAN WAQAS SALEEM

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OBJECTIVE

To develop my expertise in the field of power and control system engineering and become a good researcher and contribute to research and development in this field with my academic qualification and technical capacity.

EDUCATION

Skills

Microsoft Office
C/C++ Programming
Matlab R2014a
LabView 2013
Modelsim 6.1f
Arduino
Etap 12.6.0
OrCad PsPice
Proteus v8.1
DiaLux
AutoCAD 2016
SolidWorks 2016
Adobe Photoshop
WonderShare Video Editor

Electrical Engineering (Power), Bachelor of Science   September 2014 – July 2018
University of Engineering & Technology, Taxila, Pakistan   (www.uettaxila.edu.pk)
CGPA 3.44/4.0

Specialized in power and control System Engineering. Studies focused in artificial intelligence, digital signal and image processing, control system design using modern technique and power system designing, planning and operation.

Electrical Technology, B. tech (Pass)   August 2012 – June 2014
Bahauddin Zakariya University, Multan, Pakistan   (www.bzu.edu.pk)
Obtained Percentage 76.7% (997/1300 Marks)

Studies focused in electrical power designing, planning, operation, maintenance, control and protection of the electric power system to provide safe and reliable power, and actively participated in projects to create real world application.

Electrical Technology, Diploma of Associate Engineering August 2009 – July 2012
Swedish Institute of Technology, Multan, Pakistan   (www.swedish.pk)
Obtained Percentage 86.25% (3062/3550 Marks)

Equivalent to HSSC (Higher Secondary School Certificate). Studies focused in engineering prerequisite subjects such as calculus, algebra, physics, and basics of electronic circuit design, digital logic design, circuit prototyping, electrical machines and electrical wirings.

Matric, Secondary School Certificate   August 2007 – July 2009
Govt. **Muslim High School**, Multan, Pakistan   (www.bisemultan.edu.pk)
Obtained Percentage 75.33% (791/1050 Marks)

Studies focused in engineering subjects such as Math, physics and Chemistry which help to develop basic understanding of engineering.

PROJECTS

PID controllers design applied to positioning of ball on the 6 DOF Stewart platform

My final year project (FYP) is on "PID controllers design applied to positioning of ball on the 6 DOF Stewart platform". It is the structure of a parallel robot with six degrees of freedom (6DOF) positioning system. A controller is needed to move ball on top platform from initial position to desired position and orientation. It will generate required forces for each motor. Position and trajectory control of the platform can be reduced to leg position control after inverse kinematic and path planning algorithms. A PID (proportional-integrator-derivative) and sliding mode position controllers were developed and implemented. Control algorithms designed in Simulink environment.

Currently, parallel robots use for machine tool technology, precision laser cutting, micro machining, throwing platform of missiles, flight simulators, helicopter runway, surgical operations, and driving simulators.

Six degree of freedom robotic manipulator

During my Bachelor of science degree, I worked on 6 DOF robot manipulator, this manipulator handles objects being at the specific location and its movement control through hand gesture, rotate through servo motors and apply PID, the intelligent service robot is required to grip the object being various positions in workspace and transfer it to the required position. We also verified through the real time simulation on Webots Software with an action of robot and an ability of command performance whether the manipulator can execute task carrying an object or not. We have used STM 32 Microcontroller for programming and forward kinematics model has been validated using Robotics toolbox for Matlab while the inverse kinematics model has been implemented on real robotic arm.

Optimization of solar panel with solar tracking and data logging

During my Bachelor of technology degree, I have built a prototype that enhances the capabilities of a PV panel by using a solar tracker and data logger. The solar panel was theoretically improved by positioning according to the sun's rays. This was accomplished by building a mounted frame that can be controlled by servo motors. Matlab and Arduino programming was used to gather the data from the sensors and to perform the appropriate servo motor action.

Three Phase Induction Motor Protection System Design

During my Diploma of Associate Engineering, I have worked on induction motor protection using embedded microcontroller (Atmega 16) from over voltage, under voltage, over-heating, faulted current and phase reversing. We have used operational amplifier for voltage comparator, thermistor is used to sense the temperature and overload and phase reversing protection used current sensors, relays and phase sequence sensor.

HONORS & ACHIEVEMENTS

Board Position, Diploma of Associate Engineering
Ranked 2nd in PBTE (Punjab Board of Technical Education), Lahore in Diploma of Associate Engineering examination 2012. (http://www.pbte.edu.pk)

College Position, Bachelor of Technology
Ranked 1st in GCT (Govt. College of Technology), Multan in Bachelor of Technology examination 2014.

High Achievers Development Program, PEEF
Attend youth development program in Youth Development Centre, Murree Pakistan in 2012. (http://www.peef.org.pk/ydc.html)

Real Talent of Multan Award, IJT Pakistan
In 2011, IJT Pakistan honoring the "Real Talent of Multan Award" on the basis of best academic performance.