IFTIKHAR TUMRANI

Mechatronics and Control Engineer
PEC # MECHATRO/03546

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I'm recently graduated as a Mechatronics and Control Engineer from University of Engineering and Technology Lahore with strong technical skills and critical problem-solving techniques. In last year of 2018, I got my first professional work experience as an Internee Engineer Electrical and Instrument at Fauji Fertilizer Company in Sadiqabad.
I want to be placed in that post where I can use my technical skills and leadership qualities for the upliftment of the company and personal growth.

PROJECTS

- **IOT based Data Acquisition, Control and Performance Monitoring of 4 Stroke Diesel Engine.**
  Practically implementation and ensured the Data Acquisition, Control and Performance Monitoring of 4-Stroke Diesel Engine using Internet. A Final Year Project in which major focus is to monitor the performance parameters of 4-Stroke diesel engine by using internet and to control the Speed as well as Torque of 4 stroke diesel engine by proper Implementation of close loop system or continuos control action. Moreover, Technical documentation of Research Paper and Thesis report is ensured regarding to this project title.

- **PID Control of Linear Position Actuator**
  To control the linear position of weight carrier without any overshoot, oscillations and steady state error or in other word proper way of implementation of PID control action.
  Analogue PID controller was designed, with minimum error and excellent close loop system strategy was practically implemented.

- **Intelligent Control of Refrigerator Using Fuzzy Logic**
  The project is based on artificial intelligence. To control the compressor speed and ultimately the working fluid flow or refrigerant as well as condensor fan speed depending upon the number of Food items, time of the day, season and cooling rate using fuzzy logic control action.
  In this way the minimum energy loss is ensured with desired suitable performance with intelligent control.

- **Automatic Domestic Generator Control**
  To control the domestic generator automatically turn off depending upon the presence of utility supply.
  Inexpensive system for generator to make it more innovative and automatic. The system that leads to Cost, Fuel and Ultimately Energy saving.

- **Smart Bluetooth Control Appliances Module**
  The Compact, Light and Inexpensive bluetooth based wireless module designed to control the household or any other appliances at the distance of 15 meter.
  An Innovative product that makes the things smarter one and has the features of easy operate and control.

- **Liquid Level Maintainer**
  Automatically maintain the liquid volume depending upon our desired set value of liquid of the tank or reservoir Liquid Level (Volume).
  The main benefit is that, we can control the quantity to our desire set amount.

- **Elevator Control Using Arduino**
  The Arduino based 4-floor Elevator was designed and practically implemented to carry the the load.
  You can move the load to any floor of your desire by pressing respective push buttons.
  In this project, the current position of elevator at respective floor was indicated on display.
  (All other necessary information regarding this project is available on demand).

- **Three phase Voltage Level Breaker**
  Automatically turn on and off the three phase tubewell motor depending upon the voltage level of any three phase line and protect the tubewell motor from electrical fluctuations.

- **Gait Monitoring System Using IMU and FSR**
  A biomedical project to analyse the gait pattern for normal person and injured patient. Kinetic and kinematic parameters can be measured by using Force Sensitive Resistor (FSR) and Inertial Measrement Unit (IMU). Data is acquired by interfacing these two sensors with microcontroller i,e Arduino and being monitored Via Serial Monitor on Computer or Laptop Screen.
  Graphical pattern was recorded to compare with literature work to analyse the gait pattern.

- **Wi-fi Smart Room Module**
  Practically designed product to control the appliances with the help of Smart phone via implementation of IOT. This device holds the innovative feature to Control the Household, Commercial or Industrial appliances at remote locations or anywhere in the world by using internet.
  Moreover, this module sends online alert and notification about gas and fire leakage and also has feature of timer based online control of the appliances.

EDUCATION & INTERNSHIP

UET, LAHORE FAISALABAD CAMPUS
BSC MECHATRONICS AND CONTROL ENGINEERING
3.345/4.0 CGPA
2015 – 2019

PUNJAB COLLEGE OF SCIENCE, RAHIM YAR KHAN
FSC PRE-ENGINEERING
917/1100 (83.36%)
2013 – 2015

NATIONAL GARRISON SECONDARY SCHOOL,
RAHIM YAR KHAN
MATRICULATION
968/1050 (92.19%)
2011 – 2013

EDUCATIONAL & PRACTICAL ACHIEVEMENTS
FROM BEGINNING TO ENGINEERING
2001 –2019

- **1st Position** in spare parts competition and awarded the best quick and correct wiring the bread board within given interval of time.
- **Awarded** merit-based scholarship (full fee concession) for top 10 students given by Punjab College of Science, Rahim Yar Khan.
- Got an opportunity to be a member of **National Outreach Program (NOP)** student session organized by Lahore University of Management Science (LUMS).
- **1st Position** in school academic career from beginning to class seven.
- Class **Proctor** (beginning to Matric).
- 6-weeks **Internship** in Fauji Fertilizer Company (FFC) Sadiqabad (June 2018 - August 2018)
  Internship duration was divided into different slots. Initially in first week there was training in technical training center (TTC). In next two weeks there were visits in Main Control Room (MCR). Plant site visit to understand the working of Control Valves, Pressure, Temperature, Level Transmitters.
  One week was specified for Utility Plant Visit.
  Overall session was very informative and full of technical training.

LANGUAGES, EXPERTISE & SKILLS

ENGLISH	URDU	PUNJABI	NI MULTISISM	SISO TOOL	STEP 7 LADDER LOGIC	FESTO FLUIDSIM
MATLAB & SIMULINK	PROTEUS ISIS	PROTEUS IRES	PROJECT PLANNING & DEVELOPMENT	CIRCUIT ANALYSIS & DESIGN	ARDUINO IDE	MP LAB
C/C++	EDRAW MAX	ELECTRICAL MACHINES & ELECTROMECHANICAL UNDERSTANDING	MS OFFICE	TECHNICAL DOCUMENTATION	APPLICATION DEVELOPMENT	CONTROL SYSTEM ANALYSIS
SYSTEM MODELING	GUI DEVELOPMENT	SIMULATION BASED TESTING	MECHATRONICS SYSTEM TROUBLESHOOTING	PLC PROGRAMMING	MICROCONTROLLER PROGRAMMING	ENGINEERING MANAGEMENT
CONTROL SYSTEM DESIGN	COMMUNICATION SKILLS	CIRCUIT TROUBLESHOOTING	SENSOR, ACTUATORS, DRIVES, CONTROLLERS UNDERSTANDIND	SYSTEM IDENTIFICATION	FUZZY LOGIC	DRAW IO