

# Muhammad Shamaas

534 Kamran Block, Allama Iqbal Town, Lahore

Github: MuhammadShamaas1997/

03160146282, 04235414441

mshamaas1997@gmail.com

## Education

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### Lahore University of Management Sciences

Graduated July 2018

BS Electrical Engineering.

1. Bachelors of Science as LUMS National Outreach Program Scholar with 100% scholarship.
2. Graduated with CGPA = 3.81 / 4.00.
3. Specialization in Power Engineering.
4. Attained LUMS Dean's Honor List Academic Achievement Award for 2016, 2017 and 2018.

### Beaconhouse College Gulberg Campus Lahore

Graduated July 2014

A-Level (Pre-Engineering)

1. 3 A\*, 1 A (IBCC Equivalent Marks: 86 %).

### Beaconhouse School System Garden Town Campus Lahore

Graduated July 2012

O-Level (Science)

1. 5 A\*, 3 A, 1 C (IBCC Equivalent Marks: 85 %).

## Employment History

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### Kohinoor Energy Limited

Raiwind, Punjab

Internship

January 2019 - Present

The valuable three month learning opportunity enabled me to experience the grand process of generating electricity in KEL furnace oil 124 MW power plant. I observed the industrial operation and maintenance procedures of the different subsystems for my Internship report.

### Lahore University of Management Sciences

Lahore, Punjab

Research Assistant

February 2018 - June 2018

I completed a Research project for research and hardware development of a Local Oscillator Bank (3 - 3.5 GHz) using the Phase Locked Loop Frequency Synthesizer Integrated Circuits MAX 2871 and HMC 832.

### Lahore University of Management Sciences

Lahore, Punjab

Teaching Assistant

September 2017 - December 2017

I performed my duties as a teaching assistant for the course of EE330: Electromagnetic Fields and Waves for the assistant professor at my university.

### The Citizen Foundation

June 2018 - July 2018

Internship

I taught English to Secondary School Children in The TCF School Jhulkey, Lahore for four weeks.

## Internship

I visited four schools to distribute pamphlets, and give presentations about the LUMS National Outreach Program Scholarships.

## Engineering Projects

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1. 3D Pick and Place game in MATLAB .
2. Wall Following Robot Car.
3. 2 Digit Up-Counter using J-K Flip Flops with 7 Segment Displays.
4. Pulse Oximeter with LED Display .
5. Wireless Robot Car using XBee transceiver module.
6. FM Modulator and Demodulator .
7. Pole Balancing Robot using Simulink and Arduino.
8. Inverse Isolated 5 V to 0-25 V SEPIC Converter using Designed Inductor and 2 A Transformer.
9. Operation of 3 phase Synchronous Generator, Induction Generator, DC Generator and Transformer.
10. Direct Digital Synthesizer (100 MHz) Simulation in OrCAD.
11. Home Automation using Arduino-FreeRTOS and WiFi Module ESP8266.
12. QT Linux Device Drivers for Mini 6410.
13. Senior Year Project: Comparison of Erlang-C Markov Chain Call Center Model, Erlang-X Markov Chain Call Center Model and Real Call Center Results with Packet Switched Call Center Simulation in Discrete Event Network Simulator (NS-3.26). The simulation incorporated call abandonment, heavy call traffic, call drops, virtual response unit and different routing schemes (Fastest Server First, Longest Idle First, Skill Based Routing and Lowest Cost Routing). The Results were also compared with a WebRTC based Call Center Node.js Application to study the effects of network congestion, variable propagation delays and transmission speeds on Quality of Service (<https://webrtccallapp.herokuapp.com/>).

## Professional Skills

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| 1. Installation and maintenance of Wiring, Lighting and Electronics                     | Competent    |
| 2. Circuit Simulation Tools (ETAP, PSIM, LTSpice, Proteus, LabVIEW, OrCAD, Simulink)    | Competent    |
| 3. Microcontrollers (PIC, Texas Instruments, Analog Devices, Maxim Integrated, Arduino) | Competent    |
| 4. 3D Modelling and Design Software (Creo Parametric 2.0)                               | Competent    |
| 5. C++, Java, MATLAB, JavaScript, HTML5, MongoDB and Node.js                            | Intermediate |
| 6. Modelica, Haskell, Python  | Beginner     |