Flat A9, Prestige Plaza, Plot No. 287
Jam Jan Street, Nishter Road, Garden West, Karachi
+92-332-3399304
fn0122@gmail.com
hmfurqan@neduet.edu.pk
hmfurqan@cloud.neduet.edu.pk

HAFIZ MUHAMMAD FURQAN

OBJECTIVE

To encourage creativity and higher-order thinking in a way that increases student's performance.

EXPERIENCE

NED University of Engineering & Tech., Karachi — *Lecturer*

JULY 2016 - PRESENT

TEACHING:

Currently employed as Lecturer in the Electrical Engineering Department. Taught following courses in Undergraduate Program of the department:

- Computers & Programming (C++ Language)
- Feedback Control Systems
- Basic Electrical Engineering
- Data Structures and Algorithms
- Digital Signal Processing

Updated Lab Manuals of following courses to meet the OBE requirements:

- Data Structures and Algorithms
- Feedback Control Systems
- Computers and Programming
- Digital Signal Processing

Actively participated in the Curriculum Revision of Undergraduate Program offered in the department of Electrical Engineering as per HEC requirements presented in Board of Studies (BoS) meeting held in June-2020 under the kind supervision of Prof. Dr. Atta Ullah Khawaja (CED).

NON-TEACHING:

Currently working as AC-ISO officer in the department of Electrical Engineering since November-2019.

Orient Energy Systems Pvt Ltd , Karachi — *Trainee Engineer*

DECEMBER 2015 - JULY 2016

Worked as a Trainee Engineer in Orient Energy Systems in *Services Department*. They give complete support of *GE Jenbacher* engines including commissioning, maintenance work, troubleshooting, fault diagnosis and spares.

Job responsibilities include:

- Perform 2000 Hours Maintenance work for customers.
- Troubleshoot and diagnose faults and rectify them.
- Assisted service teams in bearing replacement, Meggering, and coupling of alternators.
- Re-commissioning of engines performed.
- To perform engine parameters tuning to meet the desired results like to decrease NOX content in the exhaust by tuning engine parameters.

Tapal Energy Pvt Ltd, Karachi — *Trainee Engineer*

JUNE 2014 - JUNE 2015

Worked as Trainee Engineer in the maintenance department. Following works performed during the service:

- Performed Scheduled and Unscheduled Maintenance tasks with technical personnel.
- Understands the system on Managerial and Technical level.
- On job experience of System's Island/Grid Mode conversion on blackout and steps taken.
- Assisted the personnel in making the plant productivity maximum.
- Learned how to handle false alarms and signals to make sure maximum production.
- Testing and calibration of temperature controllers and control valves.
- Calibration and testing of temperature and pressure transmitter.
- Overhauling and Meggering of motors.
- Overhauling, Meggering and Gap Clearance of alternators as per manufacturer specification sheet.
- Testing of varistor and power diodes of alternator.
- Calibration and testing of Digital Excitation Control System (DECS).

Group Tution, Karachi — *Self Employed*

2011 - 2015

Taught O/A levels and Karachi board students during my academic career. Subjects include mathematics and physics.

Noor Collegiate of Science, Karachi — *Paper Checker*

2010 - 2014

Employed as a Paper Checker for checking Preliminary Exam Papers. Subjects include Chemistry, Physics and Mathematics.

EDUCATION

NED University of Engineering & Tech., Karachi — *PhD - Electrical Engineering (in progress)*

Currently enrolled as a PhD scholar in the Department of Electrical Engineering (NEDUET) under the supervision of Dr. Riazuddin (Assistant Professor / PI - NCRA Lab).

NED University of Engineering & Tech., Karachi — *M.Engg/M.Phil - Power Systems*

AUGUST 2016 - NOVEMBER 2018 (CGPA: 3.87 out of 4.0)

Master's Dissertation Title: *Application of Instantaneous Power Theory in Power Systems*

A Novel method was proposed using Enhanced Instantaneous Power Theory (EIPT) in sharing the different load current components (as proposed by EIPT) independently among two distributed generations (DGs) and the Grid.

NED University of Engineering & Tech., Karachi — *BE - Electrical Engineering*

JANUARY 2010 - MARCH 2014 (72.38% Marks - First Division)

Final Year Project:

Take care of power quality even if the load is non-linear or unbalanced. It mitigates harmonics the allowable limits defined by IEEE Std 519-1992.

- Design Power Circuits
- Simulation on MATLAB Simulink
- Studied the *pq-Theory* (modern power theory)
- Studied various power theories under non-sinusoidal conditions
- Studied passive harmonic filters

Successfully achieved the desired results.

Govt. Degree College Stadium Road, Karachi — *HSC - Pre-Engineering*

AUGUST 2007 - AUGUST 2009 (78.55% Marks - A-Grade)

Iqra Huffaz Boys Secondary School, Karachi — *SSC - Science*

MARCH 2005 - MARCH 2007 (83.53% Marks - A1-Grade)

SOFT SKILLS

General Softwares

- MS-Office

Computing & Hardware Integrating Tools:

- MATLAB
- Multisim
- Arduino IDE - Open source microcontrollers from various manufacturers
- Proteus
- Energia IDE - Texas Instruments microcontrollers
- STMicroelectronics (32-bit microcontroller) with open source tools and Ubuntu (popular Linux distribution)

Programming Languages

- C/C++ Language
- Python Language

Operating Systems

- Windows 10

- Ubuntu 18.04 LTS
- Rasbian OS (for Raspberry pi - Single board Computer)

INTERNSHIP

Schneider Electric, Karachi — *Internee*

2013

Performed one month internship to get the industrial system awareness and working procedures.

HARDWARE PROJECTS

Automatic Overhead Tank Filling

Automated the overhead tank filling using Atmel ATmega16 microcontroller.

Designing Energy Meter

Written a software from scratch in C-language to calculate the Electrical Parameters (power, voltage, energy, etc) using Arduino Due.

Single Phase Inverter

Written a software in C-language for Single Phase Inverter through Sinusoidal Pulse Width Modulation (SPWM) Technique using Arduino UNO.

System Identification of DC motor

Written a software in C-language to identify the transfer function of the DC motor practically by recording step response of the DC motor using STMicroelectronics STM32F103C8T6 micro-controller.

FreeRTOS

Some early development has been done using FreeRTOS - An open source real time operating system for Embedded Systems licensed under MIT. The target platform is STM32 ARM-Cortex-M3. Further, Hardware Projects using FreeRTOS are in the pipeline of execution.