Usama Bin Sohaib

Electrical Engineer

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A highly motivated and hardworking individual, currently enrolled in the electrical engineering undergrad program. Precisely minded, need to set myself up for genuine active involvement with the field in a deliberate way to foster individual abilities in a reasonable setting. My career goal is to become a fully qualified and experienced electrical engineer.

EDUCATION

BSc. Electrical Engineering
Namal University Mianwali

08/2019 - Present — *CGPA : 3.77/4*

Courses

- Machine Learning
- Power Electronics
- Wireless Communication Systems
- Internet of Things
- Digital Image Processing

WORK EXPERIENCE

Electrical Intern
Engro Fertilizers Limited

07/2022 - 08/2022 — *Daharki, Pakistan*

Achievements/Tasks

- Developed a model in MATLAB Simulink to perform root cause analysis of high-power systems, identified harmonics generated by machines (VFD & Welding) were damaging the induction motors (3kV), designed LC filters to reduce harmonics & saved ~$20,000

Electrical Intern
Fauji Fertilizers Limited

08/2022 - 09/2022 — *Sadiqabad, Pakistan*

Achievements/Tasks

- Performed the cable sizing calculations for domestic & heavy industrial loads, got training & education on complex high power electrical systems, prepared comprehensive reports, and shared learning outcomes effectively with university fellows

Teaching Assistant (Data Analytics)
Namal University Mianwali

03/2023 - Present — *Mianwali, Pakistan*

Achievements/Tasks

- Conducting lab sessions for the course of Data Analytics with a class size of 35, effectively communicating with students in developing their understanding of problem-solving, helping in debugging, answering queries, and maintaining the attendance record.

ORGANIZATIONS

Voice of Namal (Only Media Society of Namal)
Vice President

IEEE Namal Student Branch (02/2020 - 06/2020)
Media Head

Namal Literary and Debating Society (08/2021 - 04/2022)
Media Head

Shaukat Khanum Memorial Cancer Hospital (03/2020-07/2022)
Student Ambassador

SKILLS

Python | C++ | MATLAB | C | MYSQL | HTML | CSS | Microsoft Office | AutoCAD

UNDERGRADUATE PROJECTS

IoT-based Smart Irrigation System with Weather Forecasting (Final Year Project) (09/2022 - Present)

- Developing a low-cost smart integrated crop management system in collaboration with the **Pakistan Atomic Energy Commission** to empower and equip farmers with modern technologies in the low-resource agricultural settings in Pakistan. This system consisted of weather forecasting-based smart irrigation, soil condition monitoring, and drainage management. Sensors based system is designed to collect data on soil moisture & nutrition level, wind speed, and humidity, and the neutral network & KNN algorithms are implemented to supply water based on weather forecasting data. The safety feature of drainage of excess water is also added in case of unforeseen situations. The user can visualize all process parameters in real time through Web-based applications.

MFCC Feature Extraction from audio files

- Designed a real-time machine learning application to extract the MFCC features from audio files of significant acoustics differences between read and spontaneous speech. Using Sckit-learn's implementation of classifier for KNN, Logistic Regression and Neural Networks the training and testing of dataset is performed.

Capacitor Bank Charger

- Designed low-cost electrical charger using the PCB board for the capacitor bank that could amplify the voltage from 5 to 12 volts using the boost converter, used 555 timer IC for switching of MOSFET, built prototype < $5

CERTIFICATES

Hands-on Arduino Workshop (04/2020)

Machine Learning Coursera (05/2021)

HP Life online course Social Media Marketing (1/02/2021)

ACHIEVEMENTS

Full-Fee Merit Scholarship for Undergraduate Studies

Full-Fee Merit Scholarship for Intermediate Studies

Laptop winner through Pakistan Youth Innovative Program

INTERESTS

Cricket | Web Development | Digital Marketing