

Muhammad Adil

Curriculum Vitae

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Skills

1. **Industrial Power and Control Systems:**, Practical and Teaching expertise in Power Systems, Electrical Machines, and Protection Systems.
2. **Industrial PLC/SCADA Systems:**, Design, implementation, troubleshooting, maintenance, and Programming of PLC- and SCADA-based industrial automation systems..
3. **Instrumentation and Measurement:**, Data acquisition and interface design using NI LabVIEW and related tools..
4. **MATLAB / Simulink:**, Modeling, simulation, and control system design..
5. **Python/Raspberry Pi/IoT/Android Development:**, Data analysis, automation, Firebase integration, and AI applications for engineering systems,...

Experience

Over 10 Years of Teaching/Research/Industrial Experience:, Experienced in Outcome-Based Education (OBE)(CBTA). Controller Design, PLC Programming.

Jan 2024 – **Senior Lab Engineer IoT**, NUTECH, Pakistan, Teaching and hands-on PLC-based Present and microcontroller based IoT systems, including PLC programming, HMI/SCADA integration.

Nov 2015 – **Lecturer (BPS-18)**, Department of Electrical Engineering, University of Science and Technology Bannu (USTB), Bannu, Pakistan.
Dec 2023

Experience: Teaching under OBE and CBTA frameworks.

Courses: Power System Protection, Power Sytem Analysis, Control Systems, Electrical Machines, Data Communication, Instrumentation and Measurement.

Oct 2014 – **Tr. Assistant Manager (Electrical / Instrumentation)**, Bestway Cement Ltd.,
Oct 2015 Hattar, Haripur, Pakistan.

Responsibility Performed maintenance and troubleshooting of LV/MV motors, PLC maintenance, Implemented temperature-based condition monitoring of LV/MV motors.

Education

- in-progress **Ph.D. Electrical Engineering (Course-work completed) (Fault Detection and Intelligent Control of Agriculture Drone)**, *University of Science and Technology Bannu, Pakistan*.
Optimization Techniques, Artificial Intelligence, Data Analysis with Python
- 2012–2014 **M.Sc. Electrical Engineering (Control Systems)**, *University of Engineering and Technology, Taxila, Pakistan*.
Courses: Electrical Machine Modeling, Optimization Techniques, Multi-variable Control, Stochastic Systems and Control, Neural Networks, Electronic System Design.
- 2007–2011 **B.Sc. Electrical Engineering, Elect/33309**, *University of Engineering and Technology, Peshawar, Pakistan*.
Courses: Electrical Machines I & II, Digital Signal Processing, Digital Logic Design, Signals and Systems, C++, Electronics I & II, Random Variables and Random Processes, Control Systems, Data Communication, Computer Networks.
- 2004–2006 **F.Sc. Pre-Engineering**, *Govt. Post Graduate College, Haripur, Pakistan, Marks: 803 / 1100*.
- 2002–2004 **Matriculation (Science)**, *Govt. High School, KTS, Haripur, Pakistan, Marks: 606 / 850*.

Freelance and Independent Projects

Android Developer / Embedded System Development, *Freelance Work*.

Developed and published many Android applications on the Google Play Store.

Conducted freelance projects integrating Firebase, and AI-based APIs.

Delivered online training sessions on Advanced Python Programming and Android Development.

Professional courses

- 2025 **CBTA in Energy sector**, *GIZ, NAVTTC*.
- 2024 **Android Application Development**, *NUTECH*, Flutter, Firebase, Google Playconsole.
- 26/10/15–
6/11/15 **Advance PLC-HMI SCADA**, *PIEAS*, SIEMENS Simatic Manager, Testing and Communication PLC S7-300, Hardware Configuration Methods, Programming on Ladder Logic.
- 2015 **Basic quickSTEP training**, *Seimens*, Basics of AC drives, Basic of AC motors, Basics of Control components, Basics of AFCE CB.
- 2014 **MATLAB/Simulink**, *programing and electrical systems simulation*.

Masters Thesis

Title *Collision Avoidance of Wheeled Robot in Unknown Environment*

Supervisors Professor Muhammad Ahmad Choudhry, Dean Elect. Dept. UET Taxila

Description A new collision avoidance algorithm based on model predictive control philosophy is proposed. the generated path by the proposed algorithm is the most optimal in the sense that it has minimum deviation from the trajectory and maximum distance from the obstacles

Publications

- . F. Jamil, M. Abid, M.Adil, I. Haq, A.Q. Khan, and S.F. Khan, "Kernel approaches for fault detection and classification in PARR-2," Journal of Process Control Vol 62 .
- . M.Adil, A.Ali, and M.A.Choudhry "Collision avoidance and trajectory tracking of Swedish wheeled mobile robot," Journal of Electrical Engineering 2014 vol.14/2014 382-393.
- . M. Abid and A. Q. Khan, M. Rehan, and M. Adil, "Sensor fault reconstruction for one-sided Lipschitz nonlinear systems," 10th IBCAST, Islamabad, 2013.

Awards

- 2011 First Prize in the Project Exhibition held at UET Campus 3
- 2012 PEEF Scholarship for Masters Studies
- 2013 Award of Shabaz Sharif youth Laptop

Computer skills

Languages Python, C++, MATLAB, Java
Software Proteous, PsPise, $\text{\LaTeX}$, OpenOffice
OS MS Windows

Languages

English, Urdu, Pashto, Hindko