Muhammad Haseeb ARSHAD
Electrical Engineer | Machine Learning | Power Electronics

in linkedin.com/in/haseeb-arshad-ee   ○ github.com/hasyarshad
▢ +1 780 604 6413   @ haseeb.arshad.ee@gmail.com   ▢ Personal Website

♀ 10713 85th Ave NW, Edmonton, AB T6E 2K9
i Born on October 10, 1989

🎓 EDUCATION

2022-2026 **PhD. Electrical Engineering (Specialization : Control & Artificial Intelligence)**
> *University of Alberta, Edmonton, Canada*
> GPA 3.65/4.0
> **Current Research Project :** Anomaly Detection for Time-series data using Digital Twin Model Architecture with the Help of Transfer Learning

2018-2020 **M.Sc. Electrical Engineering (Specialization : Control & System Engineering)**
> *King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia*
> CGPA 3.857/4.0
> **Thesis :** Intelligent Model Predictive Torque Control of Induction Motor

2016-2017 **M.Sc. Electrical Engineering (Specialization : Power & Control Systems)**
> *University of Engineering & Technology, Lahore, Pakistan*
> CGPA 3.63/4.00
> **Design Project :** Advance Direct Torque Control of Two Phase Symmetrical Induction Motor fed with B4 Inverter

2009-2014 **B.Sc. Electrical Engineering (Specialization : Electronics & Telecommunication)**
> *University of the Punjab, Lahore, Pakistan*
> CGPA 3.81/4.0
> **Thesis :** Wandering Autonomous Lifelike Behaviour Based Ground Vehicle

⚙ ACADEMIC AND PROFESSIONAL EXPERIENCE

October 2021
Sep 2020

Design Engineer, EPCM PRO, Pakistan
> SCADA system calibration
> Develop overall electrical infrastructure design
> Handling customer meetings and suggestion regarding changes to the design

`Excel` `Webex Meet` `Outlook`

September 2020
September 2018

Research Assistant, FACTS LAB - KFUPM, Saudi Arabia
> Optimization of FS-MPTC for Induction Motor
> Investigating the performance of predictive current control for line-start PMSM

`MATLAB` `MultiSim` `Simulink` `dSpace` `RTDS` `LaTeX`

December 2019
September 2019

Teacher Assistant, KFUPM, Saudi Arabia
> Assignment and quiz grader
> Project groups co-supervisor

`MATLAB` `MultiSim` `PSpice` `MAPLE` `LaTeX`

May 2019
April 2019

Teacher Assistant, KFUPM, Saudi Arabia
> Book Keeping of student records of past three years (2016-2019)
> Helper for academic petition forms

`Excel` `MS Word` `Outlook`

🖥 Publications

Advanced Direct Torque Control of Four Switch Fed Two-Phase Symmetric Induction Motor — June 2018
Muhammad Haseeb Arshad, Muhammad Khalid

Accepted in IEEE 27th International Symposium on Industrial Electronics (ISIE)

A Chaos Based SVPWM technique for B4 Inverter fed Two-Phase Symmetric Induction Motor for THD & EMI improvement at Low Modulation Index — July 2019
Muhammad Haseeb Arshad, Mahmoud Kassas

Accepted in IEEE Texas Power and Energy Conference (TPEC)

Weighting Factors Optimization of Model Predictive Torque Control of Induction Motor Using NSGA-II With TOPSIS Decision Making — December 2019
Muhammad Haseeb Arshad, Mohammad Ali Abido, Aboubakr Salem, Abubakr H Elsayed

Accepted in IEEE Access

An Overview of Sequential Learning Algorithms for Single Hidden Layer Networks : Current Issues & Future Trends — May 2020
Muhammad Haseeb Arshad, Mohammad Ali Abido

Submitted to IEEE Transactions on Artificial Intelligence

Artificial Bee Colony Optimized Self-tuning PI Speed Controller for FCS-MPCC of Permanent Magnet Synchronous Machines — December 2020
Muhammad Haseeb Arshad, Abubakr H Elsayed, Mohammad Ali Abido, Aboubakr Salem

Accepted in International Conference of Smart Systems and Emerging Technologies (SMARTTECH)

A Simple Technique for Studying Chaos using Jerk Equation with Discrete Time Sine Map — January 2021
Muhammad Haseeb Arshad, Mahmoud Kassas, Alaa E Hussein, Mohammad Ali Abido

Accepted in Applied Sciences

Hierarchical Control of DC Motor coupled with Cuk Converter combining Differential Flatness and Sliding Mode Control — January 2021
Muhammad Haseeb Arshad, Mohammad Ali Abido

Accepted in Arabian Journal for Science and Engineering

Revisiting media literacy measurement : Development and validation of 3-factor media literacy scale — May 2022
A. Arshad, S. Ghazal, N. Saleem, M. A. Hanan, Muhammad Haseeb Arshad

Submitted to Journal of Computer Assisted Learning

GA tuned Adaptive Discrete-time Sliding Mode Controller for LCL Grid-Connected Inverter — Accepted
Muhammad Haseeb Arshad, Sami El-Farik, Mati Ur-Rasool, Mohammed Ali Abido, Md. Ismail Hossain

Submitted to Energy Reports

MPC of LSPMSM Using A Novel Flux Observer Based on Indirect Current Method - Not published yet — Under Review
Abubakr H Elsayed, Muhammad Haseeb Arshad, Aboubakr Salem, Alaa E Hussein, Mohammed Ali Abido

Submitted to IEEE Access

Optimal Weighting Factor Selection of Finite Set Control Model Predictive Torque Control of IM Drive using Cascaded Feedforward Neural Network — Under Review
Muhammad Haseeb Arshad, Mohammad Ali Abido

Working on Reviewer's Comments - Submitted to IEEE Transactions on Industrial Informatics

💼 Professional Training and Courses

21 June 2020
25 June 2020 | **Data Science Fundamentals, KFUPM, KnowledgeHut**
> Data Science in Businees
> Data Analytics Tools
> Data Science Methodology

`Zoom` `Jupitor Notebook`

September 2019
December 2019 | **ICS-460 | Introduction to Machine Learning, KFUPM, Saudi Arabia**
> Machine Learning and its Fundamentals
> Supervised, Unsupervised & Reinforced Learning
> Regression vs Classification Techniques
> Introduction to Deep Neural Networks
> Implementation of Machine Learning Algorithms using Jupitor Notebook

`Jupitor Notebook` `MATLAB` `Excel`

July 2017
September 2017 | **The Data Scientist's Toolbox | Data Science Specialization, John Happkins University, Coursera**
> Introduction to Data Science
> Big Data Analytics

`MS Word` `RStudio`

☰ Skills

Programming	**C++**, **MATLAB**, **Python**, VHDL, MAPLE, R
Engineering Softwares	**MATLAB**, **Proteus**, **NI MultiSim**, **CorelDraw**, NI LABView, Kiel, Photoshop CS5
Operating System	**Windows 10**, **Mac OS X**, Windows 7, Linux Redhat
Other	**DSpace**, **PyTorch**, **Tensor-Flow**, **CNN**, **RNN**, **LSTM**, **VS Code**, RStudio, AVR Studio, Active-HDL, MS Office, MS Visio, VAEs

📖 Important Coursework

> Convex Optimization
> Evolutionary Optimization
> Intelligent Control
> Adaptive Control
> Stochastic Process
> Machine Learning
> Digital Signal Processing
> Linear Control Systems
> Advance Power Electronics
> Design of Digital System
> Nonlinear Dynamical Systems
> Advance Topics in Computer Vision
> Dynamics Optimization & Estimation Theory

🏆 Achievements

> Got 1st position in the of Punjab Group Colleges during the session 2006-08
> Got 4th position in B.Sc. Electrical Engineering at university level during the session 2009-13
> HEC Indigenous Scholar for my postgraduate studies at UET Lahore
> Got 4th position in M.Sc. Electrical Engineering at university level during the session 2016-17
> Graduate Scholar at KFUPM, Dhahran, Saudi Arabia on fully funded scholarship
> Won Travel Grant from IES for ISIE 2018 conference.
> Won Chine Belt & Road Scholarships to cover the full tuition fees of Research PhD Program at PolyU worth HKD $42,100/annum
> Got The Hong Kong Polytechnic University PhD Studenship for 4 years of worth HKD $217,200/annum

🌐 Languages

Urdu	●●●●●
Punjabi	●●●●●
English	●●●●○

➕ Professional Affiliations

> Pakistan Engineering Council (Registered and Supervisory Engineer under C-5/C-6 Category
> Institute of Electrical and Electronics Engineers (IEEE) USA (Student Member)
> Industrial Electronics Society (IES) USA (Student Member)

❝ References

> References will be provided upon request