Muhammad Haseeb **Arshad**

Electrical Engineer | Machine Learning | Power Electronics

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
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**, **Git**, 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