Ammar Hasan

Professor

School of Electrical Engineering and Computer Science

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About

Dr. Ammar Hasan is working as Professor in the School of Electrical Engineering and Computer Science. Dr. Ammar Hasan has a PhD in Control Systems. Dr. Ammar Hasan has published 29 research articles & conference papers having a citation count of 503, carried out 2 projects and filed 0 intellectual property.

Qualifications

PhD in Control Systems 2008 - 2012
Imperial College London , England

MS in Control Systems 2007 - 2008
Imperial College London , England

BE in Electrical Engineering 2000 - 2004
NUST, Islamabad , Pakistan

Experience

Professor 2023- Present
School of Electrical Engineering and Computer Science

Professor 2022 - 2023
School of Electrical Engineering and Computer Science

Associate Professor 2018 - 2022
School of Electrical Engineering and Computer Science

Assistant Professor 2012 - 2018
School of Electrical Engineering and Computer Science

Assistant Professor 2012 - 2012
School of Electrical Engineering and Computer Science

Snr / Design Engineer 2004 - 2007
Comcept , Plot 291, Street 3, I-9/3, Islamabad

Awards

SEECS Best Teacher2016-17

NUST Best Teacher 2015-16

Professional Memberships

PEC

Research Projects

National Projects

Smart Load Enabler for Micro-Grids in Pakistan 2016

Funding Agency: USAID / USPCASE

Amount: PKR 2,690,000.00

Status: Completed

Finite Control Set-Model Predictive Control (FCS-MPC) of Dual Active Bridge (DAB) Bidirectional Converters for Renewable Energy Systems 2017

Funding Agency: HEC

Amount: PKR 2,755,000.00

Status: Completed

International Projects

Research Articles

Adaptive neuro-fuzzy inference system and barrier function based nonlinear control of three phase grid-connected fast charging station for bidirectional power flow 2025

Bibi Tabassam Gul Iftikhar Ahmad Habibur Rehman Ammar Hasan

Journal of Energy Storage, Volume:109, Article Number: 114998

Impact Factor: 8.9 | **Quartile:** 1 | **Citations:** 2

DOI: https://doi.org/10.1016/j.est.2024.114998

Optimized ANFIS-Based Robust Nonlinear Control of a Solar Off-Grid Charging Station for Electric Vehicles 2025

Bibi Tabassam Gul Iftikhar Ahmad Habibur Rehman Ammar Hasan

IEEE ACCESS, Volume:13, Page(s):20361-20373

Impact Factor: 3.4 | **Quartile:** 2 | **Citations:** 4

DOI: 10.1109/ACCESS.2025.3535571

Artificial neural network based conditional controllers with saturated action for multi-renewable hybrid alternating or direct current microgrids in islanded and grid-connected modes 2024

Rimsha Ghias Ammar Hasan Iftikhar Ahmad

Journal of Energy Storage, Volume 94, Article Number 112139

Impact Factor: 8.900 | **Quartile:** 1 | **Citations:** 12

DOI: doi.org/10.1016/j.est.2024.112139

Direct Model Predictive Control of Fuel Cell and Ultra-Capacitor Based Hybrid Electric Vehicle 2024

Farrukh Zain ul Abideen Hassan Abdullah Khalid Muhammad Saud Khan Habibur Rehman Ammar Hasan

IEEE Access , Volume 12, Pages 46774-46784

Impact Factor: 3.9 | **Quartile:** 2 | **Citations:** 10

DOI: 10.1109/ACCESS.2024.3381219

Non-linear Synergetic Control of UPFC for Efficient Damping of Local and Inter-Area Oscillations 2024

Umer Afaq Farhan Ali Ammar Hasan Iftikhar Ahmad Mansoor Asif

IEEE Transactions on Power Systems, Volume 39, Issue 1

Impact Factor: 7.326 | **Quartile:** 1 | **Citations:** 10

DOI: 10.1109/TPWRS.2023.3263891

A Blockchain-Based Data-Driven Fault-Tolerant Control System for Smart Factories in Industry 4.0 2023

Abdullah Bin Masood Ammar Hasan Vasos Vassiliou Marios Lestas

Computer Communications , Volume 204, Pages 158-171

Impact Factor: 5.047 | **Quartile:** 1 | **Citations:** 18

DOI: https://doi.org/10.1016/j.comcom.2023.03.017

FEA Based Transformer Loss Analysis for Dual Active Bridge DC-DC Converter Using Triple Phase Shift Modulation 2022

Seema Mir Akbar Ammar Hasan Alan J. Watson Pat Wheeler

IEEE Journal of Emerging and Selected Topics in Power Electronics, Volume 10, Issue 4, Pages 4347-4360

Impact Factor: 5.462 | **Quartile:** 1 | **Citations:** 10

DOI: 10.1109/JESTPE.2022.3148355+

Conditioned-based robust nonlinear control of plug-in hybrid electric vehicle with saturated control actions 2021

Iftikhar Ahmad Shahzad Ahmed Usman Ali Afzal Ammar Hasan

Journal of Energy Storage, Volume 43, Article Number 103201

Impact Factor: 8.907 | **Quartile:** 1 | **Citations:** 18

DOI: 10.1016/j.est.2021.103201

Model Predictive Control With Triple Phase Shift Modulation for a Dual Active Bridge DC- DC Converter 2021

Seema Mir Akbar Ammar Hasan Alan J. Watson Pat Wheeler

IEEE Access, Volume 9, Pages 98603-98614

Impact Factor: 3.367 | **Quartile:** 2 | **Citations:** 29

DOI: 10.1109/ACCESS.2021.3095553

Direct Model Predictive Control of Novel H-Bridge Multilevel Inverter Based Grid-Connected Photovoltaic System 2019

Muhammad Bilal Satti Ammar Hasan

IEEE Access, Volume 7, Pages 62750-62758

Impact Factor: 3.745 | **Quartile:** 1 | **Citations:** 28

DOI: 10.1109/ACCESS.2019.2916195

Formal periodic steady-state analysis of power converters in time-domain 2019

Osman Hasan Ammar Hasan Asad Ahmed

Journal of Applied Logics, Vol.6(3), Pages 448-468

Impact Factor: 0

DOI: NA

Combined Data Rate and Energy Management in Harvesting Enabled Tactile IoT Sensing Devices 2019

Nouman Ashraf Ammar Hasan Hassaan Khaliq Marios Lestas

IEEE Transactions on Industrial Informatics, Volume 15, Issue 5, Pages 3006-3015

Impact Factor: 9.112 | **Quartile:** 1 | **Citations:** 31

DOI: 10.1109/TII.2019.2900795

An efficient branch and bound algorithm for direct model predictive control of boost converter 2019

Rizwan Amir Nouman Ali Ammar Hasan

IEICE Electronics Express, Volume 16, Issue 5, Article Number 20180445

Impact Factor: 0.788 | **Quartile:** 4 | **Citations:** 1

DOI: 10.1587/elex.16.20180445

A New Multilevel Inverter Topology for Grid-Connected Photovoltaic Systems 2018

Muhammad Bilal Satti Ammar Hasan Mian Ilyas Ahmad

International Journal of Photoenergy, Volume 2018, Article ID 9704346, 9 pages

Impact Factor: 2.026 | **Quartile:** 2 | **Citations:** 13

DOI: https://doi.org/10.1155/2018/9704346

MPPT for photovoltaic system using nonlinear backstepping controller with integral action 2018

M. Arsalan R. Iftikhar K. Sabahat A. Javeria Iftikhar Ahmad Ammar Hasan

Solar Energy, NULL

Impact Factor: 4.674 | **Quartile:** 1 | **Citations:** 121

DOI: 10.1016/j.solener.2018.04.061

Machine Learning Based Adaptive Prediction Horizon in Finite Control Set Model Predictive Control 2018

M. S. M. Gardezi AMMAR HASAN

IEEE Access, NULL

Impact Factor: 4.098 | **Quartile:** 1

DOI: https://ieeexplore.ieee.org/document/8361792/

Unit Prediction Horizon Binary Search-Based Model Predictive Control of Full-Bridge DC-DC Converter 2018

Junaid Saeed Ammar Hasan

IEEE Transactions on Control Systems Technology, Volume 26, Issue 2, Pages 463-474

Impact Factor: 5.371 | **Quartile:** 1 | **Citations:** 38

DOI: 10.1109/TCST.2017.2670530

A method for estimating Hill function-based dynamic models of gene regulatory networks 2018

F. Elahi Ammar Hasan

Royal Society Open Science, NULL

Impact Factor: 2.515 | **Quartile:** 2
DOI: http://rsos.royalsocietypublishing.org/content/5/2/171226.abstract

Realization for low cost and energy efficient ceiling fans in the developing countries 2017
Ammar Hasan Tauseef Tauqeer Muhammad Afnan Ansari
Renewable and Sustainable Energy Reviews, Volume 76, Pages 193-201
Impact Factor: 9.184 | **Quartile:** 1 | **Citations:** 4
DOI: 10.1016/j.rser.2017.03.020

Control-oriented discrete-time large-signal model of phase-shift full-bridge DC?DC converter 2017
Ammar Hasan Junaid Saeed
Electrical Engineering , Pages 1-9
Impact Factor: 1.269 | **Quartile:** 3 | **Citations:** 8
DOI: https://doi.org/10.1007/s00202-017-0601-8

Variable frequency finite control set model predictive control of boost converter 2017
Ammar Hasan Turrab Abid
IEICE Electronics Express, Vol.14, No.14, Article ID:14.20170526, Pages 1-6
Impact Factor: 0.475 | **Quartile:** 4
DOI: https://www.jstage.jst.go.jp/article/elex/14/14/14_14.20170526/_article/-char/ja/

Aerodynamic investigation and redesign of ceiling fan blades for enhanced energy efficienc 2017
Ammar Hasan Muhammad Aaqib Afaq Adnan Maqsood Shahid Ikramullah Butt Tauseef Tauqeer
Maejo International Journal of Science and Technology, Vol.11(02), Pages 97-114
Impact Factor: 0.469 | **Quartile:** 4
DOI: http://www.mijst.mju.ac.th/vol11/97-114.pdf

4PR: Privacy preserving routing in mobile delay tolerant networks 2016
J. Miao O. Hasan S. B. Mokhtar L. Brunie Ammar Hasan
Computer Networks , Volume 111, Pages 17-28
Impact Factor: 2.516 | **Quartile:** 1 | **Citations:** 13
DOI: 10.1016/j.comnet.2016.08.005

Quadratic Optimal Control of Aerodynamic Vectored UAV at High Angle of Attack 2016
Mubashra Manzoor Adnan Maqsood Ammar Hasan
International Review of Aerospace Engineering, Volume 9, Issue 3, Pages 70-79
Impact Factor: - | **Citations:** 16
DOI: doi:10.15866/irease.v9i3.8119

Control-theoretic forward error analysis of iterative numerical algorithms 2013
E. C. Kerrigan G. A. Constantinides Ammar Hasan
IEEE Transactions on Automatic Control, Volume 58, Issue 6, Pages 1524-1529
Impact Factor: 3.167 | **Quartile:** 1 | **Citations:** 16
DOI: 10.1109/TAC.2012.2225513

Conference Proceedings

Control over Blockchain for Data-Driven Fault Tolerant Control in Industry 4.0 2022
Abdullah Bin Masood Ammar Hasan Vasos Vassiliou Marios Lestas
2022 20th Mediterranean Communication and Computer Networking Conference, MedComNet 2022, res.country(55,)
Citations: N/A
DOI: 10.1109/MedComNet55087.2022.9810433

Finite Control Set Model Predictive Control of Isolated DC/DC Modular Multilevel Converter 2020
Seema Mir Akbar Ammar Hasan Alan Watson Pat Wheeler Shafiq Odhano
46th Annual Conference of the IEEE Industrial Electronics Society, res.country(197,)
Citations: N/A
DOI: 10.1109/IECON43393.2020.9254434

Approximate Sphere Decoding Based Model Predictive Control of Cascaded H-Bridge Inverters 2019
R. Amir Osman Hasan Ammar Hasan
2019 IEEE 13th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG), res.country(59,)
Citations: N/A
DOI: 10.1109/CPE.2019.8862374