

Arsalan Ahmad

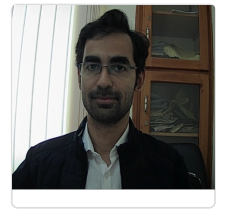
Associate Professor

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About

Dr. Arsalan Ahmad is working as Associate Professor in the School of Electrical Engineering and Computer Science. Dr. Arsalan Ahmad has a PhD in Optical Networks. Dr. Arsalan Ahmad has published 41 research articles & conference papers having a citation count of 266, carried out 2 projects and filed 1 intellectual property.

Qualifications

PhD in Optical Networks Politecnico di Torino , Italy	2011 - 2014
MS in Telecommunications Politecnico di Torino , Italy	2008 - 2010
BE in Information Technology UET Taxila , Pakistan	2003 - 2007

Experience

Associate Professor School of Electrical Engineering and Computer Science	2023- Present
Associate Professor School of Electrical Engineering and Computer Science	2022 - 2023
Assistant Professor School of Electrical Engineering and Computer Science	2019 - 2022
Assistant Professor School of Electrical Engineering and Computer Science	2016 - 2019
Assistant Professor School of Electrical Engineering and Computer Science	2015 - 2016
Postdoctoral Ressearch Fellow Politecnico di Torino, Italy , Corso duca degli abruzzi 24, Politecnico di Torino, Italy	2014 - 2015

Research Projects

National Projects

An AI enabled quasi-real-time water quality monitoring for early chemical and/or bio-contamination detection Funding Agency: Asi@Connect Amount: PKR 29,699,329.00 Status: Approved_inprocess	2021
Software Defined Optical Networks (SDON) Training and Research Laboratory for TEIN NRENs Funding Agency: Asi@Connect Amount: PKR 8,383,245.00 Status: Approved_inprocess	2019

International Projects

Research Articles

A bidirectional free space optical link for last-mile terrestrial access links employing a novel wavelength shift keying technique	2024
<p><i>Salman Abdul Ghafoor Arsalan Ahmad Jawad Mirza Abdulah Jeza Aljohani Changjia Qu Imran Aziz</i> <i>Optical and Quantum Electronics</i>, Volume:56, Issue:8, Article Number: 1367, Pages: 12</p> <p>Impact Factor: 3.3 Quartile: 2 Citations: 4 DOI: 10.1007/s11082-024-07279-6</p>	
Symbol error rate minimization using deep learning approaches for short-reach optical communication networks	2024
<p><i>Muhammad Iqbal Salman Abdul Ghafoor Arsalan ahmad Abdulah Jeza Aljohani Jawad Mirza Imran Aziz Luca Poti</i> <i>Frontiers in Physics</i>, Volume: 12, Pages: 12</p> <p>Impact Factor: 3.1 Quartile: 2 Citations: 5 DOI: 10.3389/fphy.2024.1387284</p>	
Open Networking Engine (ONE): An Orchestration Tool for Open Optical Line System	2024
<p><i>Arsalan ahmad Salman Abdul Ghafoor Hafiz Mati Ur Rahman Rida Hanif</i> <i>IEEE Access</i> , Volume 12, Pages 8940-8956</p> <p>Impact Factor: 3.9 Quartile: 2 Citations: 2 DOI: 10.1109/ACCESS.2024.3354172</p>	
Efficient Network Slicing for 5G Services in Cloud Fog-RAN Deployment over WDM Network	2023
<p><i>Muhammad Ahsan Ashfaq Ahmed Huma Fida Abbasi Arafat Al Dweik Umair Sajid Hashmi Arsalan Ahmad</i> <i>IEEE Transactions on Vehicular Technology</i>, Volume 72, Issue 9, Pages 12099-12112</p> <p>Impact Factor: 6.8 Quartile: 1 Citations: 14 DOI: 10.1109/TVT.2023.3266234</p>	
Merging engine implementation for intra-frame sharing in multi-tenant virtual passive optical networks	2023
<p><i>Akhlaque Ahmad Ashfaq Ahmed Arafat Al-Dweik Syed Taha Ali Arsalan Ahmad</i> <i>Journal of Optical Communications and Networking</i>, Volume:15, Issue:4, Page:209-218</p> <p>Impact Factor: 4.508 Quartile: 1 Citations: 3 DOI: 10.1364/JOCN.474329</p>	
SUDV: Malicious fog node management framework for software update dissemination in connected vehicles	2023
<p><i>Nadia Kalsoom Asad Waqar Malik Anis Ur Rahman Muhammad Ahsan Arsalan Ahmad</i> <i>The Journal of Supercomputing</i> , Volume:79, Issue:4, Page:4534-4555</p> <p>Impact Factor: 3.3 Quartile: 2 DOI: https://doi.org/10.1007/s11227-022-04829-1</p>	
Iterative supervised learning approach using transceiver bit-error-rate measurements for optical line system optimization	2023
<p><i>Giacomo Borraccini Andrea D'Amico Stefano Straullu Fehmida Usmani Arsalan Ahmad Vittorio Curri</i> <i>Journal of Optical Communications and Networking</i>, Volume 15, Issue 2, Pages 111-118</p> <p>Impact Factor: 5.0 Quartile: 1 Citations: 18 DOI: 10.1364/JOCN.475460</p>	
Over-the-air software-defined vehicle updates using federated fog environment	2022
<p><i>Asad Waqar Malik Anis Ur Rahman Arsalan Ahmad Max Mauro Dias Santos</i> <i>IEEE Transactions on Network and Service Management</i>, Volume 19, Issue 4, Pages 5078-5089</p> <p>Impact Factor: 4.758 Quartile: 2 Citations: 26 DOI: 10.1109/TNSM.2022.3181027</p>	
Deep reinforcement learning approach towards a smart parking architecture	2022
<p><i>Kamran Sattar Awaisi Assad Abbas Hasan Ali Khattak Arsalan Ahmad Mazhar Ali Abbas Khalid</i> <i>Cluster Computing</i> , Pages 1-12</p> <p>Impact Factor: 4.4 Quartile: 1 Citations: 23 DOI: 10.1007/s10586-022-03599-y</p>	
Cross-feature trained machine learning models for QoT-estimation in optical networks	2021
<p><i>Fehmida Usmani Ihtesham Khan Mehek Siddiqui Mahnoor Khan Muhammad Bilal M Umar Masood Arsalan Ahmad Muhammad Shahzad Vittorio Curri</i> <i>Optical Engineering</i> , Volume 60(12), Article Number 125106</p> <p>Impact Factor: 1.084 Quartile: 4 Citations: 5 DOI: https://doi.org/10.1117/1.OE.60.12.125106</p>	

Backhaul-Aware Intelligent Positioning of UAVs and Association of Terrestrial Base Stations for Fronthaul Connectivity <i>Muhammad Karam Shehzad Arsalan Ahmad Syed Ali Hassan Haejoon Jung</i> <i>IEEE Transactions on Network Science and Engineering</i> , Volume 8, Issue 4, Pages 2742-2755 Impact Factor: 3.894 Quartile: 1 Citations: 36 DOI: 10.1109/TNSE.2021.3077314	2021
Convolutional neural network for quality of transmission prediction of unestablished lightpaths <i>Muhammad Umar Masood Fehmida Usmani Ihtesham Khan Arsalan Ahmad Muhammad Shahzad Vittorio Curri</i> <i>Microwave and Optical Technology Letters</i> , Volume 63, Issue10, Pages 2461-2469 Impact Factor: 1.311 Quartile: 4 Citations: 14 DOI: 10.1002/mop.32996	2021
Virtual DBA: virtualizing passive optical networks to enable multi-service operation in true multi-tenant environments <i>Marco Ruffini Arsalan Ahmad Sanwal Zeb Nima Afraz Frank Slyne</i> <i>Journal of Optical Communications and Networking</i> , Volume 12, No. 4, Pages B63-B73 Impact Factor: 3.984 Quartile: 1 Citations: 46 DOI: https://doi.org/10.1364/JOCN.379894	2020
Optimization of MAC Frame Slots and Power in Hybrid VLC/RF Networks <i>Madiha Amjad Hassaan Khaliq Qureshi Syed Ali Hassan Madiha Amjad Hassaan Khaliq Qureshi Arsalan Ahmad</i> <i>IEEE Access</i> , Volume 8, Pages 21653-21664 Impact Factor: 3.367 Quartile: 2 Citations: 18 DOI: 10.1109/ACCESS.2020.2968624	2020
Impact of data center placement on the power consumption of flexible-grid optical networks <i>Ihtesham Khan Arsalan Ahmad Muhammad U. Masood Nadeem Ahmed Vittorio Curri Ihtesham Khan Muhammad U. Masood Asad Waqar Malik</i> <i>Optical Engineering</i> , Volume 59(1), Article Number 016115 Impact Factor: 1.084 Quartile: 4 Citations: 8 DOI: https://doi.org/10.1117/1.OE.59.1.016115	2020
Virtual Infrastructure Orchestration For Cloud Service Deployment <i>Arsalan Qadeer Asad Waqar Malik Anis-ur-Rahman Mian Hamayun Arsalan Ahmad</i> <i>Computer Journal</i> , Pages 1-13 Impact Factor: 1.077 Quartile: 3 Citations: 6 DOI: 10.1093/comjnl/bxz125	2019
Physical layer strategies to save lightpath regenerators <i>Alessio Ferrari Mattia Cantono Arsalan Ahmad Vittorio Curri</i> <i>Journal of Optical Communications and Networking</i> , Volume 10, Issue 9, Pages 703-711 Impact Factor: 3.093 Quartile: 1 Citations: 6 DOI: 10.1364/JOCN.10.000703	2018
Merit of hybrid EDFA/Raman amplification in fixed-grid all-optical network exploiting multirate transponders <i>Arsalan Ahmad Andrea Bianco Hussein Chouman Daniele DeTommas Guido Marchetto Sarosh Tahir Vittorio Curri</i> <i>International Journal of Communication Systems</i> , Volume 31, Issue 1, Article Number e3383 Impact Factor: 1.278 Quartile: 3 Citations: 5 DOI: 10.1002/dac.3383	2018
Raman Pumping as an Energy Efficient Solution for NyWDM Flexible-grid Elastic Optical Networks <i>Arsalan Ahmad Andrea Bianco Vittorio Curri Guido Marchetto Sarosh Tahir</i> <i>International Journal of Electrical and Computer Engineering (IJECE)</i> , ISSN:2088-8708, Vol. 7, No. 5, Pages 2627-2634, October 2017, NULL Impact Factor: 0 Citations: 2 DOI: 10.11591/ijece.v7i5.pp2627-2634	2017
Energy-Aware Design of Multilayer Core Networks [Invited] <i>Arsalan Ahmad Andrea Bianco Edoardo Bonetto Luca Chiaraviglio Filip Idzikowski</i> <i>Journal of Optical Communications and Networking</i> , Volume 5, Issue 10, Pages A127-A143 Impact Factor: 1.547 Quartile: 2 Citations: 18 DOI: https://doi.org/10.1364/JOCN.5.00A127	2013

Transfer learning Aided QoT Computation in Network Operating with the 400ZR Standard <i>Fehmida Usmani Ihtesham Khan Muhammad Umar Masood Arsalan Ahmad Muhammad Shahzad Vittorio Curri</i> 2022 International Conference on Optical Network Design and Modeling, ONDM 2022, res.country(178,) Citations: N/A DOI: 10.23919/ONDM54585.2022.9782856	2024
From Measured pH to Hidden BOD: Quasi Real-Time Estimation of Key Indirect Water Quality Parameters Through Direct Sensor Measurements <i>Yasir Faheem Arsalan Ahmad Muhammad Moazam Fraz Masabah Bint E Islam</i> 9th International Congress on Information and Communication Technology (ICICT 2024), res.country(231,) Citations: N/A DOI: https://doi.org/10.1007/978-981-97-5441-0_19	2024
Iterative Transfer Learning Approach for QoT Prediction of Lightpath in Optical Networks <i>Hafsa Tariq Fehmida Usmani Ihtesham Khan Muhammad Umar Masood Arsalan Ahmad Vittorio Curri</i> International Conference on Transparent Optical Networks, res.country(188,) Citations: N/A DOI: 10.1109/ICTON59386.2023.10207173	2023
Knowledge Distillation-Based Compression Model for QoT Estimation of an Unestablished Lightpaths <i>Fehmida Usmani Ihtesham Khan Muhammad Umar Masood Arsalan Ahmad Vittorio Curri</i> 2023 23rd International Conference on Transparent Optical Networks (ICTON), res.country(188,) Citations: N/A DOI: 10.1109/ICTON59386.2023.10207383	2023
Empirical Performance Evaluation of Open Source SDN Controllers in different Network Topologies <i>Hafiz Mati ur Rahman Ghulam Bahoo Lamees Zafar Ibrahim Al-oqily asan Ali Khattak Arsalan Ahmad</i> IEEE/IFIP Network Operations and Management Symposium 2023, NOMS 2023, res.country(233,) Citations: N/A DOI: 10.1109/NOMS56928.2023.10154394	2023
Multi-labeled Random-forest Enabled Softwarized Management for Photonics Switching Systems <i>Ihtesham Khan Noor Ul Huda Ajmal Hafsa Tariq Lorenzo Tunesi Muhammad Umar Masood Enrico Ghillino Paolo Bardella Andrea Carena Arsalan Ahmad Vittorio Curri</i> 2022 Asia Communications and Photonics Conference (ACP) and International Conference on Information Photonics and Optical Communications (IPOC) res.country(48,) Citations: N/A DOI: 10.1109/ACP55869.2022.10089124	2022
Performance Analysis of Transfer-learning Approaches for QoT Estimation of Network Operating with 400ZR <i>Fehmida Usmani Ihtesham Khan Hafsa Tariq Muhammad Umar Masood Muhammad Shahzad Arsalan Ahmad Vittorio Curri</i> Asia Communications and Photonics Conference, ACP, res.country(48,) Citations: N/A DOI: 10.1109/ACP55869.2022.10088462	2022
Query Based Iterative Learning Approach for Lightpath Deployment in Optical Networks <i>Fehmida Usmani Ihtesham Khan Hafsa Tariq Muhammad Shahzad Arsalan Ahmad Vittorio Curri</i> Asia Communications and Photonics Conference, ACP, res.country(48,) Citations: N/A DOI: 10.1109/ACP55869.2022.10089006	2022
Explainable Prediction of Medical Codes through Automated Knowledge Graph Curation Framework <i>Mutahira Khalid Hasan Ali Khattak Arsalan Ahmad Syed Ahmad Chan Bukhari</i> 19th International Bhurban Conference on Applied Sciences and Technology, IBCAST 2022, res.country(177,) Citations: N/A DOI: 10.1109/IBCAST54850.2022.9990551	2022
QoT- Estimation Assisted by Transfer learning in Extended C-band Network Operating on 400ZR <i>Fehmida Usmani Ihtesham Khan Muhammad Umar Masood Arsalan Ahmad Muhammad Shahzad Vittorio Curri</i> 2022 IEEE Photonics Society Summer Topicals Meeting Series, SUM 2022 - Proceedings, res.country(156,) Citations: N/A DOI: 10.1109/SUM53465.2022.9858280	2022

Evaluating Cross-feature Trained Machine Learning Models for Estimating QoT of Unestablished Lightpaths <i>Fehmida Usmani Ihtesham Khan Mehek Siddiqui Mahnoor Khan Muhamamd Bilal M Umar Masood Arsalan Ahmad Muhammad Shahzad Vittorio Curri</i> <i>3rd International Conference on Electrical, Communication and Computer Engineering, ICECCE 2021, res.country(157,)</i> Citations: N/A DOI: 10.1109/ICECCE52056.2021.9514154	2022
LYNX: A GNPY-based web application for multi-vendor optical network planning <i>Mohammad Saad Raza Andrea D'Amico Fehmida Usmani Sami Mansoor Alavi Muhammad Ali Taimoor Vittorio Curri Arsalan Ahmad</i> <i>Optical Fiber Communication Conference (OFC), res.country(233,)</i> Citations: N/A DOI: 10.1364/OFC.2022.M3Z.13	2022
Routing and Spectrum Allocation Heuristic for Sliced Elastic Optical Network System <i>Shahzad Alam Ihtesham Khan M Umar Masood Arsalan Ahmad Salman Abdul Ghafoor Vittorio Curri</i> <i>2021 IEEE Photonics Society Summer Topicals Meeting Series (SUM), res.country(156,)</i> Citations: N/A DOI: 10.1109/SUM48717.2021.9505	2021
Impairment-aware Virtual Network Embedding Using Time Domain Hybrid Modulation formats in Optical Networks <i>Farooq Shahzad Ihtesham Khan M Umar Masood Arsalan Ahmad Muhammad Imran Marco Ruffini Vittorio Curri</i> <i>International Conference on Optical Network Design and Modeling (ONDM) , res.country(196,)</i> Citations: N/A DOI: 10.23919/ONDM51796.2021.9492380	2021
Modeling Off-line Routing and Spectrum Allocation Problem in Elastic Optical Network <i>Shahzad Alam M Umar Masood Ihtesham Khan Arsalan Ahmad Salman Ghafoor Vittorio Curri</i> <i>International Conference on Electrical, Communication and Computer Engineering (ICECCE), res.country(157,)</i> Citations: N/A DOI: 10.1109/ICECCE52056.2021.9514112	2021
Power Aware Data Center Placement in WDM Optical Networks <i>Sanwal Zeb Arsalan Ahmad Ashfaq Ahmed Andrea Bianco</i> <i>IEEE 18th Annual Consumer Communications & Networking Conference (CCNC), res.country(233,)</i> Citations: N/A DOI: 10.1109/CCNC49032.2021.9369488	2021
Smart Provisioning of Sliceable Bandwidth Variable Transponders in Elastic Optical Networks <i>Muhammad Umar Masood Ihtesham Khan Arsalan Ahmad Muhammad Imran Vittorio Curri</i> <i>2020 3rd International Workshop on Advances in Slicing for Softwarized Infrastructures, res.country(20,)</i> Citations: N/A DOI: 10.1109/NetSoft48620.2020.9165462	2020
Capacity sharing approaches in multi-tenant, multi-service PONs for low-latency fronthaul applications based on cooperative-DBA <i>Arsalan Ahmad Frank Slyne Sanwal Zeb Abdul Wahab Rana Azhar Khan Marco Ruffini</i> <i>Proceedings of the The Optical Networking and Communication Conference & Exhibition (OFC), Mar, 2020, San Diego , USA , res.country(233,)</i> Citations: N/A DOI: 978-1-9435-8071-2	2020
Impact of Fiber Type on Regenerator Placement in Reconfigurable DWDM Transparent Optical Networks <i>Hina Ali Arsalan Ahmad Alessio Ferrari Vittorio Curri</i> <i>2018 Photonics in Switching and Computing (PSC) , res.country(55,)</i> Citations: N/A DOI: 10.1109/PS.2018.8751333	2018
Networking benefits of advanced DSP techniques and hybrid fiber amplification <i>Alessio Ferrari Mattia Cantono Uzma Waheed Arsalan Ahmad Vittorio Curri</i> <i>19th International Conference on Transparent Optical Networks (ICTON), res.country(68,)</i> Citations: N/A DOI: 10.1109/ICTON.2017.8025170	2017

Editorial Activities

Edited Journal Issue / Proceeding / Book	2023
Impact Factor: 0.0	
Edited Journal Issue / Proceeding / Book	2020
Impact Factor: 0.0	

Intellectual Property

Copyrights

Over-the-air software-defined vehicle updates using federated fog environment	2021
Status: Filed	

Patents

Industrial Designs

Trademarks