Arsalan Ahmad
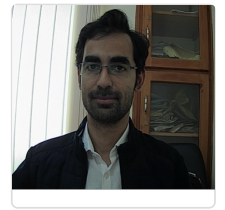
Associate Professor

School of Electrical Engineering and Computer Science

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LinkedIn:

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   2011 - 2014
  Politecnico di Torino , Italy

MS in Telecommunications   2008 - 2010
  Politecnico di Torino , Italy

BE in Information Technology   2003 - 2007
  UET Taxila , Pakistan

Experience

Associate Professor   2023- Present
  School of Electrical Engineering and Computer Science

Associate Professor   2022 - 2023
  School of Electrical Engineering and Computer Science

Assistant Professor   2019 - 2022
  School of Electrical Engineering and Computer Science

Assistant Professor   2016 - 2019
  School of Electrical Engineering and Computer Science

Assistant Professor   2015 - 2016
  School of Electrical Engineering and Computer Science

Postdoctoral Ressearch Fellow   2014 - 2015
  Politecnico di Torino, Italy , Corso duca degli abruzzi 24, Politecnico di Torino, Italy

Research Projects

National Projects

An AI enabled quasi-real-time water quality monitoring for early chemical and/or bio-contamination detection   2021
  Funding Agency: Asi@Connect
  Amount: PKR 29,699,329.00
  Status: Approved_inprocess

Software Defined Optical Networks (SDON) Training and Research Laboratory for TEIN NRENs   2019
  Funding Agency: Asi@Connect
  Amount: PKR 8,383,245.00
  Status: Approved_inprocess

International Projects

Research Articles

A bidirectional free space optical link for last-mile terrestrial access links employing a novel wavelength shift keying technique

2024

Salman Abdul Ghafoor Arsalan Ahmad Jawad Mirza Abdulah Jeza Aljohani Changjia Qu Imran Aziz

Optical and Quantum Electronics, Volume:56, Issue:8, Article Number: 1367, Pages: 12

Impact Factor: 3.3 | **Quartile:** 2 | **Citations:** 4
DOI: 10.1007/s11082-024-07279-6

Symbol error rate minimization using deep learning approaches for short-reach optical communication networks

2024

Muhammad Iqbal Salman Abdul Ghafoor Arsalan ahmad Abdulah Jeza Aljohani Jawad Mirza Imran Aziz Luca Poti

Frontiers in Physics, Volume: 12, Pages: 12

Impact Factor: 3.1 | **Quartile:** 2 | **Citations:** 5
DOI: 10.3389/fphy.2024.1387284

Open Networking Engine (ONE): An Orchestration Tool for Open Optical Line System

2024

Arsalan ahmad Salman Abdul Ghafoor Hafiz Mati Ur Rahman Rida Hanif

IEEE Access, Volume 12, Pages 8940-8956

Impact Factor: 3.9 | **Quartile:** 2 | **Citations:** 2
DOI: 10.1109/ACCESS.2024.3354172

Efficient Network Slicing for 5G Services in Cloud Fog-RAN Deployment over WDM Network

2023

Muhammad Ahsan Ashfaq Ahmed Huma Fida Abbasi Arafat Al Dweik Umair Sajid Hashmi Arsalan Ahmad

IEEE Transactions on Vehicular Technology, Volume 72, Issue 9, Pages 12099-12112

Impact Factor: 6.8 | **Quartile:** 1 | **Citations:** 14
DOI: 10.1109/TVT.2023.3266234

Merging engine implementation for intra-frame sharing in multi-tenant virtual passive optical networks

2023

Akhlaque Ahmad Ashfaq Ahmed Arafat Al-Dweik Syed Taha Ali Arsalan Ahmad

Journal of Optical Communications and Networking, Volume:15, Issue:4, Page:209-218

Impact Factor: 4.508 | **Quartile:** 1 | **Citations:** 3
DOI: 10.1364/JOCN.474329

SUDV: Malicious fog node management framework for software update dissemination in connected vehicles

2023

Nadia Kalsoom Asad Waqar Malik Anis Ur Rahman Muhammad Ahsan Arsalan Ahmad

The Journal of Supercomputing, Volume:79, Issue:4, Page:4534-4555

Impact Factor: 3.3 | **Quartile:** 2
DOI: https://doi.org/10.1007/s11227-022-04829-1

Iterative supervised learning approach using transceiver bit-error-rate measurements for optical line system optimization

2023

Giacomo Borraccini Andrea D'Amico Stefano Straullu Fehmida Usmani Arsalan Ahmad Vittorio Curri

Journal of Optical Communications and Networking, Volume 15, Issue 2, Pages 111-118

Impact Factor: 5.0 | **Quartile:** 1 | **Citations:** 18
DOI: 10.1364/JOCN.475460

Over-the-air software-defined vehicle updates using federated fog environment

2022

Asad Waqar Malik Anis Ur Rahman Arsalan Ahmad Max Mauro Dias Santos

IEEE Transactions on Network and Service Management, Volume 19, Issue 4, Pages 5078-5089

Impact Factor: 4.758 | **Quartile:** 2 | **Citations:** 26
DOI: 10.1109/TNSM.2022.3181027

Deep reinforcement learning approach towards a smart parking architecture

2022

Kamran Sattar Awaisi Assad Abbas Hasan Ali Khattak Arsalan Ahmad Mazhar Ali Abbas Khalid

Cluster Computing, Pages 1-12

Impact Factor: 4.4 | **Quartile:** 1 | **Citations:** 23
DOI: 10.1007/s10586-022-03599-y

Cross-feature trained machine learning models for QoT-estimation in optical networks

2021

Fehmida Usmani Ihtesham Khan Mehek Siddiqui Mahnoor Khan Muhammad Bilal M Umar Masood Arsalan Ahmad Muhammad Shahzad Vittorio Curri

Optical Engineering, Volume 60(12), Article Number 125106

Impact Factor: 1.084 | **Quartile:** 4 | **Citations:** 5
DOI: https://doi.org/10.1117/1.OE.60.12.125106

Backhaul-Aware Intelligent Positioning of UAVs and Association of Terrestrial Base Stations for Fronthaul Connectivity — 2021

Muhammad Karam Shehzad Arsalan Ahmad Syed Ali Hassan Haejoon Jung

IEEE Transactions on Network Science and Engineering, Volume 8, Issue 4, Pages 2742-2755

Impact Factor: 3.894 | **Quartile:** 1 | **Citations:** 36

Convolutional neural network for quality of transmission prediction of unestablished lightpaths — 2021

Muhammad Umar Masood Fehmida Usmani Ihtesham Khan Arsalan Ahmad Muhammad Shahzad Vittorio Curri

Microwave and Optical Technology Letters, Volume 63, Issue10, Pages 2461-2469

Impact Factor: 1.311 | **Quartile:** 4 | **Citations:** 14

Virtual DBA: virtualizing passive optical networks to enable multi-service operation in true multi-tenant environments — 2020

Marco Ruffini Arsalan Ahmad Sanwal Zeb Nima Afraz Frank Slyne

Journal of Optical Communications and Networking, Volume 12, No. 4, Pages B63-B73

Impact Factor: 3.984 | **Quartile:** 1 | **Citations:** 46

Optimization of MAC Frame Slots and Power in Hybrid VLC/RF Networks — 2020

Madiha Amjad Hassaan Khaliq Qureshi Syed Ali Hassan Madiha Amjad Hassaan Khaliq Qureshi Arsalan Ahmad

IEEE Access, Volume 8, Pages 21653-21664

Impact Factor: 3.367 | **Quartile:** 2 | **Citations:** 18

Impact of data center placement on the power consumption of flexible-grid optical networks — 2020

Ihtesham Khan Arsalan Ahmad Muhammad U. Masood Nadeem Ahmed Vittorio Curri Ihtesham Khan Muhammad U. Masood Asad Waqar Malik

Optical Engineering, Volume 59(1), Article Number 016115

Impact Factor: 1.084 | **Quartile:** 4 | **Citations:** 8

Virtual Infrastructure Orchestration For Cloud Service Deployment — 2019

Arslan Qadeer Asad Waqar Malik Anis-ur-Rahman Mian Hamayun Arsalan Ahmad

Computer Journal, Pages 1-13

Impact Factor: 1.077 | **Quartile:** 3 | **Citations:** 6

Physical layer strategies to save lightpath regenerators — 2018

Alessio Ferrari Mattia Cantono Arsalan Ahmad Vittorio Curri

Journal of Optical Communications and Networking, Volume 10, Issue 9, Pages 703-711

Impact Factor: 3.093 | **Quartile:** 1 | **Citations:** 6

Merit of hybrid EDFA/Raman amplification in fixed-grid all-optical network exploiting multirate transponders — 2018

Arsalan Ahmad Andrea Bianco Hussein Chouman Daniele DeTommas Guido Marchetto Sarosh Tahir Vittorio Curri

International Journal of Communication Systems, Volume 31, Issue 1, Article Number e3383

Impact Factor: 1.278 | **Quartile:** 3 | **Citations:** 5

Raman Pumping as an Energy Efficient Solution for NyWDM Flexible-grid Elastic Optical Networks — 2017

Arsalan Ahmad Andrea Bianco Vittorio Curri Guido Marchetto Sarosh Tahir

International Journal of Electrical and Computer Engineering (IJECE), ISSN:2088-8708, Vol. 7, No. 5, Pages 2627-2634, October 2017, NULL

Impact Factor: 0 | **Citations:** 2

Energy-Aware Design of Multilayer Core Networks [Invited] — 2013

Arsalan Ahmad Andrea Bianco Edoardo Bonetto Luca Chiaraviglio Filip Idzikowski

Journal of Optical Communications and Networking, Volume 5, Issue 10, Pages A127-A143

Impact Factor: 1.547 | **Quartile:** 2 | **Citations:** 18

Conference Proceedings

Transfer learning Aided QoT Computation in Network Operating with the 400ZR Standard 2024

Fehmida Usmani Ihtesham Khan Muhammad Umar Masood Arsalan Ahmad Muhammad Shahzad Vittorio Curri

2022 International Conference on Optical Network Design and Modeling, ONDM 2022, res.country(178,)

Citations: N/A
DOI: 10.23919/ONDM54585.2022.9782856

From Measured pH to Hidden BOD: Quasi Real-Time Estimation of Key Indirect Water Quality 2024
Parameters Through Direct Sensor Measurements

Yasir Faheem Arsalan Ahmad Muhammad Moazam Fraz Masabah Bint E Islam

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

Iterative Transfer Learning Approach for QoT Prediction of Lightpath in Optical Networks 2023

Hafsa Tariq Fehmida Usmani Ihtesham Khan Muhammad Umar Masood Arsalan Ahmad Vittorio Curri

International Conference on Transparent Optical Networks, res.country(188,)

Citations: N/A
DOI: 10.1109/ICTON59386.2023.10207173

Knowledge Distillation-Based Compression Model for QoT Estimation of an Unestablished Lightpaths 2023

Fehmida Usmani Ihtesham Khan Muhammad Umar Masood Arsalan Ahmad Vittorio Curri

2023 23rd International Conference on Transparent Optical Networks (ICTON), res.country(188,)

Citations: N/A
DOI: 10.1109/ICTON59386.2023.10207383

Empirical Performance Evaluation of Open Source SDN Controllers in different Network Topologies 2023

Hafiz Mati ur Rahman Ghulam Bahoo Lamees Zafar Ibrahim Al-oqily asan Ali Khattak Arsalan Ahmad

IEEE/IFIP Network Operations and Management Symposium 2023, NOMS 2023, res.country(233,)

Citations: N/A
DOI: 10.1109/NOMS56928.2023.10154394

Multi-labeled Random-forest Enabled Softwarized Management for Photonics Switching Systems 2022

Ihtesham Khan Noor Ul Huda Ajmal Hafsa Tariq Lorenzo Tunesi Muhammad Umar Masood Enrico Ghillino Paolo Bardella Andrea Carena Arsalan Ahmad Vittorio Curri

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

Performance Analysis of Transfer-learning Approaches for QoT Estimation of Network Operating with 2022
400ZR

Fehmida Usmani Ihtesham Khan Hafsa Tariq Muhammad Umar Masood Muhammad Shahzad Arsalan Ahmad Vittorio Curri

Asia Communications and Photonics Conference, ACP, res.country(48,)

Citations: N/A
DOI: 10.1109/ACP55869.2022.10088462

Query Based Iterative Learning Approach for Lightpath Deployment in Optical Networks 2022

Fehmida Usmani Ihtesham Khan Hafsa Tariq Muhammad Shahzad Arsalan Ahmad Vittorio Curri

Asia Communications and Photonics Conference, ACP, res.country(48,)

Citations: N/A
DOI: 10.1109/ACP55869.2022.10089006

Explainable Prediction of Medical Codes through Automated Knowledge Graph Curation Framework 2022

Mutahira Khalid Hasan Ali Khattak Arsalan Ahmad Syed Ahmad Chan Bukhari

19th International Bhurban Conference on Applied Sciences and Technology, IBCAST 2022, res.country(177,)

Citations: N/A
DOI: 10.1109/IBCAST54850.2022.9990551

QoT- Estimation Assisted by Transfer learning in Extended C-band Network Operating on 400ZR 2022

Fehmida Usmani Ihtesham Khan Muhammad Umar Masood Arsalan Ahmad Muhammad Shahzad Vittorio Curri

2022 IEEE Photonics Society Summer Topicals Meeting Series, SUM 2022 - Proceedings, res.country(156,)

Citations: N/A
DOI: 10.1109/SUM53465.2022.9858280

Evaluating Cross-feature Trained Machine Learning Models for Estimating QoT of Unestablished Lightpaths

2022

Fehmida Usmani Ihtesham Khan Mehek Siddiqui Mahnoor Khan Muhamamd Bilal M Umar Masood Arsalan Ahmad Muhammad Shahzad Vittorio Curri

3rd International Conference on Electrical, Communication and Computer Engineering, ICECCE 2021, res.country(157,)

Citations: N/A
DOI: 10.1109/ICECCE52056.2021.9514154

LYNX: A GNPy-based web application for multi-vendor optical network planning

2022

Mohammad Saad Raza Andrea D'Amico Fehmida Usmani Sami Mansoor Alavi Muhammad Ali Taimoor Vittorio Curri Arsalan Ahmad

Optical Fiber Communication Conference (OFC), res.country(233,)

Citations: N/A
DOI: 10.1364/OFC.2022.M3Z.13

Routing and Spectrum Allocation Heuristic for Sliced Elastic Optical Network System

2021

Shahzad Alam Ihtesham Khan M Umar Masood Arsalan Ahmad Salman Abdul Ghafoor Vittorio Curri

2021 IEEE Photonics Society Summer Topicals Meeting Series (SUM), res.country(156,)

Citations: N/A
DOI: 10.1109/SUM48717.2021.9505

Impairment-aware Virtual Network Embedding Using Time Domain Hybrid Modulation formats in Optical Networks

2021

Farooq Shahzad Ihtesham Khan M Umar Masood Arsalan Ahmad Muhammad Imran Marco Ruffini Vittorio Curri

International Conference on Optical Network Design and Modeling (ONDM) , res.country(196,)

Citations: N/A
DOI: 10.23919/ONDM51796.2021.9492380

Modeling Off-line Routing and Spectrum Allocation Problem in Elastic Optical Network

2021

Shahzad Alam M Umar Masood Ihtesham Khan Arsalan Ahmad Salman Ghafoor Vittorio Curri

International Conference on Electrical, Communication and Computer Engineering (ICECCE), res.country(157,)

Citations: N/A
DOI: 10.1109/ICECCE52056.2021.9514112

Power Aware Data Center Placement in WDM Optical Networks

2021

Sanwal Zeb Arsalan Ahmad Ashfaq Ahmed Andrea Bianco

IEEE 18th Annual Consumer Communications & Networking Conference (CCNC), res.country(233,)

Citations: N/A
DOI: 10.1109/CCNC49032.2021.9369488

Smart Provisioning of Sliceable Bandwidth Variable Transponders in Elastic Optical Networks

2020

Muhammad Umar Masood Ihtesham Khan Arsalan Ahmad Muhammad Imran Vittorio Curri

2020 3rd International Workshop on Advances in Slicing for Softwarized Infrastructures, res.country(20,)

Citations: N/A
DOI: 10.1109/NetSoft48620.2020.9165462

Capacity sharing approaches in multi-tenant, multi-service PONs for low-latency fronthaul applications based on cooperative-DBA

2020

Arsalan Ahmad Frank Slyne Sanwal Zeb Abdul Wahab Rana Azhar Khan Marco Ruffini

Proceedings of the The Optical Networking and Communication Conference & Exhibition (OFC), Mar, 2020, San Diego , USA , res.country(233,)

Citations: N/A
DOI: 978-1-9435-8071-2

Impact of Fiber Type on Regenerator Placement in Reconfigurable DWDM Transparent Optical Networks

2018

Hina Ali Arsalan Ahmad Alessio Ferrari Vittorio Curri

2018 Photonics in Switching and Computing (PSC) , res.country(55,)

Citations: N/A
DOI: 10.1109/PS.2018.8751333

Networking benefits of advanced DSP techniques and hybrid fiber amplification

2017

Alessio Ferrari Mattia Cantono Uzma Waheed Arsalan Ahmad Vittorio Curri

19th International Conference on Transparent Optical Networks (ICTON), res.country(68,)

Citations: N/A
DOI: 10.1109/ICTON.2017.8025170

Editorial Activities

<div style="text-align: right">2023</div>

Edited Journal Issue / Proceeding / Book
Impact Factor: 0.0

<div style="text-align: right">2020</div>

Edited Journal Issue / Proceeding / Book
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