

Muhammad Shahzad Younis

Professor

School of Electrical Engineering and Computer Science

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About

Dr. Muhammad Shahzad Younis is working as Professor in the School of Electrical Engineering and Computer Science. Dr. Muhammad Shahzad Younis has a PhD in Signal Processing. Dr. Muhammad Shahzad Younis has published 50 research articles & conference papers having a citation count of 988, carried out 20 projects and filed 3 intellectual property.

Qualifications

PhD in Signal Processing Petronas Technology University , Malaysia	2005 - 2009
MS in Ee UET Taxila , Pakistan	2003 - 2005
BE in Dsp NUST, Islamabad , Pakistan	1999 - 2002

Experience

Professor School of Electrical Engineering and Computer Science	2022- Present
Associate Professor School of Electrical Engineering and Computer Science	2019 - 2022
Assistant Professor School of Electrical Engineering and Computer Science	2012 - 2019
Assistant Professor School of Electrical Engineering and Computer Science	2009 - 2012
Lecturer UET Taxila , UET Taxila, Islamabad	2003 - 2005
Design Engineer AERO , AERO Islamabad	2002 - 2003

Professional Memberships

PEC	Since 2003
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Research Projects

National Projects	
Design and optimize an automotive radar transmitter and receiver system using MATLAB/Octave for a 77 GHz frequency, targeting eventual implementation on a Xcelerium Vector Processor Funding Agency: Commercial Amount: PKR 1,764,000.00 Status: Approved_inprocess	2024
Cybersecurity Augmentation Using Deep Learning-Aided Radio Frequency Fingerprinting for Physical Layer Authentication in Next-Generation IoT- A Deployment Framework Funding Agency: psf Amount: PKR 18,840,000.00 Status: Approved_inprocess	2025

Seamless Building Access Control using Facial Recognition Technology Funding Agency: NUST Amount: PKR 500,000.00 Status: Completed	2024
Impact of Informational Nudging on Electricity Consumption Behavior Funding Agency: NUST Amount: PKR 1,002,000.00 Status: Approved_inprocess	2024
NUST Digital Twin through Advanced Modeling & Simulation Funding Agency: NUST Amount: PKR 50,000,000.00 Status: Approved_inprocess	2024
Deploying an Automatic Number Plate Recognition (ANPR) System for Entry Points at Gate-1 Funding Agency: NUST Amount: PKR 500,000.00 Status: Completed	2024
Development of Campus Grid Monitoring System Funding Agency: NUST Amount: PKR 1,000,000.00 Status: Approved_inprocess	2023
Deployment of Indigenously developed Energy Sub Metering Technology at NSTP Building Funding Agency: NUST Amount: PKR 200,000.00 Status: Completed	2022
Development of Multipurpose Moisture Meter Funding Agency: NUST Amount: PKR 280,000.00 Status: Completed	2020
Multipurpose moisture meter Funding Agency: NUST Amount: PKR 280,000.00 Status: Approved_inprocess	2020
Soil Moisture Meter Funding Agency: NUST Amount: PKR 296,600.00 Status: Completed	2020
On Development of Generalized Tracks Association (GTA) & Validation, Optimization System (VOS) by Uncertainty Measurement of Multiple Sensor Tracks Data through Modeling and Simulation Funding Agency: PAF Amount: PKR 4,979,000.00 Status: Approved_inprocess	2019
iDoc: A Portable, Cost-Effective Diagnostic Screening Device for Early Dengue Fever Detection Funding Agency: PSF Amount: PKR 1,550,000.00 Status: Completed	2017
IoT Based Industrial Load Monitoring and Management System Funding Agency: HEC Amount: PKR 13,600,000.00 Status: Completed	2019
Random-Neighborhood-RAM: An FPGA-based Memory Architecture for Real-Time Random-Neighborhood Image and Video Processing Algorithms Funding Agency: HEC Amount: PKR 446,000.00 Status: Approved_inprocess	2017
Solar Powered Temperature and Relative Humidity Monitoring for Multipurpose Silo Bin Funding Agency: PARC	2017

Amount: PKR 7,207,000.00
Status: Completed

Cattle Vitals: A SMART SYSTEM FOR SILENT HEAT AND EARLY DISEASE

2019

Funding Agency: HEC
Amount: PKR 4,540,000.00
Status: Completed

International Projects

Industry Projects

National Projects

Automotive FMCW Radar Design and Development

2024

Client: Industry
Amount: PKR 4,200,000.00
Status: Approved_inprocess

Real Time Air Quality Monitoring System for Cotton Web Pvt Ltd

2023

Client: CottonWeb
Amount: PKR 1,357,000.00
Status: Approved_inprocess

Development of Tracking Portal for restoration of habitats

2021

Client: Serena Hotels
Amount: PKR 1,870,000.00
Status: Approved_inprocess

International Projects

Research Articles

Improved Proximal Policy Optimization Algorithm for Sequential Security-Constrained Optimal Power Flow Based on Expert Knowledge and Safety Layer

2024

Yanbo Chen Shahzad Younis Qintao Du Honghai Liu Liangcheng Cheng
Journal of Modern Power Systems and Clean Energy, Volume 12, Issue 3
Impact Factor: 6.3 | **Quartile:** 1 | **Citations:** 7
DOI: 10.35833/MPCE.2023.000232

Framework for the analysis of renewable energy grid policies in the context of COVID-19

2022

Abdul Kashif Janjua Muhammad Kashif Farooq Ahmad Ahmed Rasheed Muhammad Shahzad Younis Syed Ali Abbas Kazmi Kashif Imran
Heliyon , Volume 8, Issue 10, Article Number e10123
Impact Factor: 3.776 | **Quartile:** 2 | **Citations:** 3
DOI: doi.org/10.1016/j.heliyon.2022.e10123

Machine learning approach for prediction of crimp in cotton woven fabrics

2021

Shahzad Younis Muhammad Zohaib Fazal Sharifullah Khan Muhammad Azeem Abbas Yasir Nawab
Tehnicki Vjesnik-Technical Gazette , Volume 28, Issue 1, Pages 88-95
Impact Factor: 0.864 | **Quartile:** 4 | **Citations:** 5
DOI: https://doi.org/10.17559/TV-20191018180716

COVID-19 digital contact tracing applications and techniques: A review post initial deployments

2021

Muhammad Shahroz Farooq Ahmad Muhammad Shahzad Younis Nadeem Ahmed Maged N. Kamel Boulos Junaid Qadir Ricardo Vinuesa
Transportation Engineering , Volume 5, Article Number 100072
Impact Factor: N/A | **Citations:** 116
DOI: https://doi.org/10.1016/j.treng.2021.100072

Multi-Horizon Electricity Load and Price Forecasting using an Interpretable Multi-Head Self-Attention and EEMD-Based Framework

2021

Muhammad Furqan Azam Muhammad Shahzad Younis
IEEE Access , Volume 9, Pages 85918-85932
Impact Factor: 3.476 | **Quartile:** 2 | **Citations:** 48
DOI: 10.1109/ACCESS.2021.3086039

Ensuring Reliable Operation of Electricity Grid by Placement of FACTS Devices for Developing Countries

2021

- Atif Naveed Khan Kashif Imran Abraiz Khattak Kafait Ullah Muhammad Shahzad Younis Muhammad Nadeem Anamitra Pal Muhammad Waseem Younas Energies* , Volume 14(8), Article Number 2283
Impact Factor: 3.252 | **Quartile:** 3 | **Citations:** 9
DOI: <https://doi.org/10.3390/en14082283>
- Modeling, simulation and forecasting of wind power plants using agent-based approach** 2020
Imran Mahmood Anis-ur-Rahman Mahe Mobeen Shahzad Younis Asad Waqar Malik Muhammad Moazam Fraz Kafait Ullah Journal of Cleaner Production , Volume 276, Article Number 124172
Impact Factor: 9.297 | **Quartile:** 1 | **Citations:** 15
DOI: <https://doi.org/10.1016/j.jclepro.2020.124172>
- A Scenario-Based Stochastic Optimization Approach for Non-Intrusive Appliance Load Monitoring** 2020
Muhammad Shahzad Younis Hasan Arshad Nasir Muhammad Shahroz IEEE Access , Volume 8, Pages 142205-142217
Impact Factor: 3.367 | **Quartile:** 2 | **Citations:** 5
DOI: [10.1109/ACCESS.2020.3013682](https://doi.org/10.1109/ACCESS.2020.3013682)
- Offline Hand Written Urdu Word Spotting using Random Data Generation** 2020
Muhammad Shahzad Younis Faiq Faizan Farooqui Muhammad Hassan Muhammad Kashif Siddhu IEEE Access , Volume 8, Pages 131119-131136
Impact Factor: 3.367 | **Quartile:** 2 | **Citations:** 9
DOI: <https://doi.org/10.1109/ACCESS.2020.3010166>
- Speech Technology for Healthcare: Opportunities, Challenges, and State of the Art** 2020
Muhammad Shahzad Younis Siddique Latif Adnan Qayyum Muhammad Usama Junaid Qadir IEEE Reviews in Biomedical Engineering , Volume 14, Pages 342-356
Impact Factor: 0 | **Citations:** 115
DOI: [DOI: 10.1109/RBME.2020.3006860](https://doi.org/10.1109/RBME.2020.3006860)
- Steganographic universal adversarial perturbations** 2020
Salah ud Din Naveed Akhtar Atif Mansoor Muhammad Shahzad Younis Faisal Shafait Muhammad Shafique Pattern Recognition Letters , Volume 135, Pages 146-152
Impact Factor: 3.756 | **Quartile:** 2 | **Citations:** 21
DOI: <https://doi.org/10.1016/j.patrec.2020.04.025>
- Development of a cost-effective CVD prediction model using lifestyle factors. A cohort study in Pakistan** 2020
Muhammad Shahzad Younis Parveen Naheeda Sharifullah Khan Saeed Ullah Shah Muhammad Azeem Abbas Kinza Waqar African Health Sciences , Volume 20, Issue 2, Pages 849-859
Impact Factor: 0.927 | **Quartile:** 4
DOI: <https://www.ajol.info/index.php/ahs/article/view/197906>
- Probabilistic Analysis of Targeted Attacks Using Transform-Domain Adversarial Examples** 2020
Zakia Yahya Muhammad Hassan Shahzad Younis Muhammad Shafique IEEE Access , Volume 8, Pages 3855-33869
Impact Factor: 3.367 | **Quartile:** 2 | **Citations:** 16
DOI: [10.1109/ACCESS.2020.2974525](https://doi.org/10.1109/ACCESS.2020.2974525)
- m-SAAC: Multi-stage adaptive approximation control to select approximate computing modes for vision applications** 2019
Rida Amjad Rehan Hafiz Muhammad Usman Ilyas Muhammad Shahzad Younis Muhammad Shafique Microelectronics Journal , Volume 91, Pages 84-91
Impact Factor: 1.405 | **Quartile:** 3 | **Citations:** 8
DOI: [10.1016/j.mejo.2010.07.010](https://doi.org/10.1016/j.mejo.2010.07.010)
- Applying Uncertain Frequent Pattern Mining to Improve Ranking of Retrieved Images** 2019
Madiha Liaqat Sharifullah Khan Muhammad Majid Shahzad Younis Kashif Rajpoot Applied Intelligence , Volume 49, Issue 8, Pages 2982-3001
Impact Factor: 3.325 | **Quartile:** 2 | **Citations:** 12
DOI: [10.1007/s10489-019-01412-9](https://doi.org/10.1007/s10489-019-01412-9)
- Design optimisation using convex programming: Towards waste-efficient building designs** 2019
Muhammad Bilal Olugbenga Akinade Juan Manuel Davila Delgado Lukman A. Akanbi Anuoluwapo O. Ajayi Muhammad S. Younis Lukumon Oyedele Journal of Building Engineering , Volume 23, Pages 231-240
Impact Factor: 3.379 | **Quartile:** 1 | **Citations:** 10

DOI: 10.1016/j.job.2019.01.022	
Wireless Technologies for Emergency Response: A Comprehensive Review and Some Guidelines <i>Touseef Yaqoob Farrukh Pervez Junaid Qadir Mohsin Khalil Usman Ashraf Shahzad Younis</i> <i>IEEE Access</i> , Volume 6, Pages 71814-71838 Impact Factor: 4.098 Quartile: 1 Citations: 49 DOI: 10.1109/ACCESS.2018.2878898	2018
Memory-Based User-Centric Backhaul-Aware User Cell Association Scheme <i>Farrukh Pervez Mona Jaber Junaid Qadir Shahzad Younis Muhammad Ali Imran</i> <i>IEEE Access</i> , Volume 6, Pages 39595-39605 Impact Factor: 4.098 Quartile: 1 Citations: 13 DOI: 10.1109/ACCESS.2018.2850752	2018
Community Detection in Networks: A Multidisciplinary Review <i>Muhammad Aqib Javed Muhammad Shahzad Younis Siddique Latif Junaid Qadir Adeel Baig</i> <i>Journal of Network and Computer Applications</i> , NULL Impact Factor: 5.273 Quartile: 1 Citations: 399 DOI: https://doi.org/10.1016/j.jnca.2018.02.011	2018
Mobile Health in the Developing World: Review of Literature and Lessons From a Case Study <i>SIDDIQUE LATIF RAJIB RANA JUNAID QADIR ANWAAR ALI MUHAMMAD ALI IMRAN MUHAMMAD SHAHZAD YOUNIS</i> <i>IEEE Access</i> , Volume 5, Pages 11540-11556 Impact Factor: 3.557 Quartile: 1 Citations: 89 DOI: 10.1109/ACCESS.2017.2710800	2017
A multi-hop angular routing protocol for wireless sensor networks <i>Mariam Akbar Nadeem Javaid Muhammad Imran Areeba Rao Muhammad Shahzad Younis Ittikhar Azim Niaz</i> <i>International Journal of Distributed Sensor Networks</i> , Volume 12, Issue 9, Pages 1-13 Impact Factor: 1.236 Quartile: 3 Citations: 12 DOI: doi:10.1177/1550147716662945	2016
Automatic Modulation Classification for Low SNR Digital Signal in Frequency-Selective Fading Environments <i>Waqas Wallayt Muhammad S. Younis Muhammad Imran Muhammad Shoaib Mohsen Guizani</i> <i>Wireless Personal Communications</i> , Volume 84, Issue 3, Pages 1891-1906, Special Issue SI Impact Factor: 0.701 Quartile: 4 Citations: 9 DOI: 10.1007/s11277-015-2544-6	2015
A Near-Optimal LLR Based Cooperative Spectrum Sensing Scheme for CRAHNS <i>Sheeraz A. Alvi Muhammad Shahzad Younis Muhammad Imran Fazal-e-Amin Mohsen Guizani</i> <i>IEEE Transactions on Wireless Communications</i> , Volume 14, Issue 7, Pages 3877-3887 Impact Factor: 2.925 Quartile: 1 Citations: 12 DOI: 10.1109/TWC.2015.2413873	2015
Nonlinear Bayesian Estimation of BOLD Signal Under Non-Gaussian Noise <i>Ali Fahim Khan Muhammad Shahzad Younis Khalid Bashir Bajwa</i> <i>Computational and Mathematical Methods in Medicine</i> , Volume 2015, Article ID 389875, 10 pages Impact Factor: 0.887 Quartile: 3 Citations: 2 DOI: http://dx.doi.org/10.1155/2015/389875	2015
Automatic Classification of Initial Categories of Alzheimer's Disease from Structural MRI Phase Images: A Comparison of PSVM, KNN and ANN Methods <i>Ahsan Bin Tufail Ali Abidi Muhammad Shahzad Younis adil masood</i> <i>International Journal of Biomedical and Biological Engineering</i> , Volume 6, Issue 12 Impact Factor: 0 DOI: 10.5281/zenodo.1084608	2012
A HOS-based blind deconvolution algorithm for the improvement of time resolution of mixed phase low SNR seismic data <i>Muhammad Shahzad Younis Ahmad Fadzil M Hani M Firdaus M Halim</i> <i>Journal of Geophysics and Engineering</i> , Volume 6, Issue 1, Pages 87-100 Impact Factor: 1.477 Quartile: 3 Citations: 4 DOI: https://doi.org/10.1088/1742-2132/6/1/010	2009

PCA-Based Adversarial Attacks on Signature Verification Systems <i>Maham Jahangir Azka Basit Muhammad Shahzad Younis Faisal Shafait</i> <i>International Conference on Document Analysis and Recognition (ICDAR) 2024</i> , res.country(88,) Citations: N/A DOI: https://doi.org/10.1007/978-3-031-70533-5	2024
Effect of PV System Design and Financial Variables on Systems Performance and Financial Feasibility <i>Abdul Kashif Janjua Shahzad Younis Muhammad Zaid Masood Khan Muhammad Musadiq Ahmed</i> <i>2023 International Conference on Energy, Power, Environment, Control, and Computing (ICEPECC)</i> , res.country(177,) Citations: N/A DOI: 10.1109/ICEPECC57281.2023.10209405	2023
Automatic Tree Counting from Satellite Imagery Using YOLO V5, SSD and UNET Models: A case study of a campus in Islamabad, Pakistan <i>Um-e-Hani Shahzad Younis Sadia Munir Tariq Saeed Hamad Younis</i> <i>3rd IEEE International Conference on Artificial Intelligence, ICAI 2023</i> , res.country(177,) Citations: N/A DOI: 10.1109/ICA158407.2023.10136679	2023
Team of Tiny ANNs: A Way Towards Cost-Efficient Scalable Deep Learning <i>Hamad Younis Muhammad Hassan Shahzad Younis</i> <i>2022 2nd International Conference on Artificial Intelligence (ICAI)</i> , res.country(282,) Citations: N/A DOI: 10.1109/ICA155435.2022.9773451	2022
mm-wave FMCW Radar Based Object Classification Using Deep Neural Networks <i>Ahtsham Zafar Asad Khan Arslan Majid Shahzad Younis Shahzad Younis</i> <i>2021 1st International Conference on Microwave, Antennas & Circuits (ICMAC)</i> , res.country(270,) Citations: N/A DOI: 10.1109/ICMAC54080.2021.9678295	2021
Classical Adversarial Attack on mm-Wave FMCW Radar <i>Ahtsham Zafar Asad Khan Shahzad Younis</i> <i>2021 International Conference on Frontiers of Information Technology (FIT)</i> , res.country(282,) Citations: N/A DOI: 10.1109/FIT53504.2021.00059	2021
Covid-19 identification using deep neural networks <i>Asad khan Shahzad Younis Haneen Algethami</i> <i>2021 International Conference of Women in Data Science at Taif University (WiDSTaif)</i> , res.country(192,) Citations: N/A DOI: 10.1109/WiDSTaif52235.2021.9430219	2021
Covid-19 Identification Using Deep Neural Networks <i>Asad Ullah Shahzad Younis Haneen Algethami</i> <i>2021 International Conference of Women in Data Science at Taif University (WiDSTaif)</i> , res.country(192,) Citations: N/A DOI: 10.1109/WiDSTaif52235.2021.9430219	2021
Orange Class Identification using Neural Networks and Transfer Learning <i>Umair Raiz Shahzad Younis Ahmed Rasheed</i> <i>23rd IEEE International Multi-Topic Conference, INMIC 2020</i> , res.country(177,) Citations: N/A DOI: 10.1109/INMIC50486.2020.9318045	2020
Machine Learning Based Grain Moisture Estimation for Real-time Monitoring of High-Temperature Paddy Drying Silo <i>Farooq Ahmad Shahzad Rana Usman Zahid Liaqat Ali Shahid</i> <i>2020 IEEE 23rd International Multitopic Conference (INMIC)</i> , res.country(177,) Citations: N/A DOI: 10.1109/INMIC50486.2020.9318071	2020
Classification of Chest Diseases using Wavelet Transforms and Transfer Learning	2020

<i>Ahmed Rasheed Muhammad Shahzad Younis Muhammad Bilal Maha Rasheed</i> <i>Medical Imaging and Computer-Aided Diagnosis</i> , res.country(231,) Citations: N/A DOI: https://link.springer.com/chapter/10.1007/978-981-15-5199-4_16	2018
Smart Heart Management - IOT Heart Attack Detection <i>Asad Ali Shah Shahzad Younis Sri Devi Ravana</i> <i>15th High-capacity Optical Networks & Enabling/Emerging Technologies (HONET-ICT)</i>, res.country(177,) Citations: N/A DOI: 10.13140/RG.2.2.35678.38727	2018
Transfer Learning for Improving Speech Emotion Classification Accuracy <i>Siddique Latif Rajib Rana Shahzad Younis Junaid Qadir Julien Epps</i> <i>INTERSPEECH 2018</i> , res.country(104,) Citations: N/A DOI: 10.21437/Interspeech.2018-1625	2017
Fuzzy Q-learning-based user-centric backhaul-aware user cell association scheme <i>Farrukh Pervez Mona Jaber Junaid Qadir Shahzad Younis Muhammad Ali Imran</i> <i>2017 13th International Wireless Communications and Mobile Computing Conference (IWCMC)</i>, res.country(68,) Citations: N/A DOI: 10.1109/IWCMC.2017.7986564	2017
Feasibility, architecture and cost considerations of using TVWS for rural Internet access in 5G <i>Mohsin Khalil Junaid Qadir Muhammad Ali Imran Shahzad Younis</i> <i>2017 20th Conference on Innovations in Clouds, Internet and Networks (ICIN)</i>, res.country(75,) Citations: N/A DOI: 10.1109/ICIN.2017.7899245	2017
Gossip routing protocol for forest fire detection using wireless sensor networks <i>Shahzad Younis Kashif Saghar Sidra Younis</i> <i>2015 12th International Bhurban Conference on Applied Sciences and Technology (IBCAST)</i>, res.country(282,) Citations: N/A DOI: 10.1109/IBCAST.2015.7058511	2015
Performance analysis of Automatic Modulation Classification in multipath fading environment <i>Waqas Wallayat Shahzad Younis Muhammad Imran Shaoib Ahmed</i> <i>2014 5th International Conference on Intelligent and Advanced Systems (ICIAS)</i>, res.country(157,) Citations: N/A DOI: 10.1109/ICIAS.2014.6869545	2014
A Weighted Linear Combining Scheme for Cooperative Spectrum Sensing <i>Shahzad Younis Sheraz Muhammad Imran Fazal Amin</i> <i>The 5th International Conference on Ambient Systems, Networks and Technologies (ANT-2014), the 4th International Conference on Sustainable Energy Information Technology (SEIT-2014)</i> , res.country(20,) Citations: N/A DOI: https://doi.org/10.1016/j.procs.2014.05.409	2014
Investigating 3D Echocardiography Image Fusion for Improving Image Quality <i>Shahzad Younis Ammara Nasim Aisha Gul Kashif Rajpoot</i> <i>2013 3rd IEEE International Conference on Computer, Control and Communication (IC4)</i>, res.country(282,) Citations: N/A DOI: 10.1109/IC4.2013.6653735	2013
Independent component analysis based assessment of linked gray and white matter in the initial stages of Alzheimer's disease using structural MRI phase images <i>Ahsan Bin Tufail Abdul Rehman Adil Masood Siddiqui Shahzad Younis Ali Abidi</i> <i>2013 International Computer Science and Engineering Conference (ICSEC)</i> , res.country(217,) Citations: N/A DOI: 10.1109/ICSEC.2013.6694804	2013
Multiclass classification of initial stages of Alzheimer's disease using structural MRI phase images <i>Shahzad Younis Ahsan Bin Tufail Adil Ali Abidi</i> <i>2012 IEEE International Conference on Control System, Computing and Engineering,,</i> res.country(157,) Citations: N/A	2012

DOI: 10.1109/ICCSCE.2012.6487163

Development of the RLS algorithm based on the iterative equation solvers
Jawad Khokhar Shahzad Younis
2012 IEEE 11th International Conference on Signal Processing, res.country(48,)
Citations: N/A
DOI: 10.1109/ICoSP.2012.6491653

2012

Modified HOS based Eigenvector algorithm for improvement of poor SNR of seismic data
M. Shahzad Younis Ahmad Fadzil M. Hani
2007 International Conference on Intelligent and Advanced Systems, res.country(157,)
Citations: N/A
DOI: 10.1109/ICIAS.2007.4658579

2007

Blind deconvolution technique for de-noising of Non-stationary seismic signals using DWT
M. Shahzad Younis Fadzil Hani
2007 International Conference on Intelligent and Advanced Systems, res.country(157,)
Citations: N/A
DOI: 10.1109/ICIAS.2007.4658580

2007

Intellectual Property

Copyrights

Patents

Industrial Designs

Automated Seed Sowing Rover
Status: Filed

2024

Smart Dendrometer
Status: Granted

2019

Soil Moisture Meter
Status: Granted

2019

Trademarks