Curriculum Vitae for: Ghulam Rasool, PhD

Current Position: Assistant Member
Department of Machine Learning
Department of Neuro-Oncology
Cancer Epidemiology Program
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Tampa, FL 33612
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Current Academic Appointments:

Assistant Professor
Department of Oncologic Sciences
Morsani College of Medicine
University of South Florida

Assistant Professor (courtesy)
Department of Electrical Engineering
University of South Florida

Education:

2011 - 2014:	Ph.D. Systems Engineering Degree, University of Arkansas at Little Rock (UALR), Little Rock, Arkansas
2008 - 2010:	M.Sc. Computer Engineering, Centre for Advanced Studies in Engineering (CASE), Islamabad, Pakistan
1996 - 1999:	B.E. Mechanical Engineering, National University of Sciences and Technology (NUST), Islamabad, Pakistan

Postgraduate Training and Fellowship Appointments

2014 - 2016:	Postdoctoral Fellow, Shirley Ryan AbilityLab (formerly Rehabilitation Institute of Chicago, RIC), Chicago, IL
2014 - 2016:	Postdoctoral Fellow (joint appointment), Department of Physical Medicine & Rehabilitation, Feinberg School of Medicine, Northwestern University, Chicago, IL
2017-2018:	Research Scholar, Department of Electrical and Computer Engineering, Rowan University, Glassboro, NJ

Academic Appointments and Employment:

2019 - 2022:	Assistant Professor (tenure track), Department of Electrical and Computer Engineering, Rowan University, Glassboro, NJ
2018 - 2019:	Lecturer, Department of Electrical and Computer Engineering, Rowan University, Glassboro, NJ
2017 - 2018:	Adjunct Lecturer, Department of Electrical and Computer Engineering, Rowan University, Glassboro, NJ

Teaching Experience

1. University Courses: (All courses were taught at the Department of Electrical and Computer Engineering, Henry M. Rowan College of Engineering, Rowan University, Glassboro, NJ)

2022 Spring:	**Course Instructor**: Systems and Control – I (ECE 09321-2) **Course Instructor**: Engineering Clinics (ENGR 01303/01403), Two sections: (1) Gesture Control for Mixed Reality and (2) VR Modeling for Landfills
2021 Fall:	**Course Instructor**: Reinforcement Learning (ECE 09458-1 and ECE 09504-3) **Course Instructor**: Engineering Clinics (ENGR 01303/01403), Prosthetic arm - electrical, mechanical and machine learning design
2021 Spring:	**Course Instructor**: Digital Signal Processing (ECE 09351-3) **Course Instructor**: Engineering Clinics (ENGR 01303/01403), Two sections: (1) Prosthetic arm design and (2) Deep learning for the real world - natural language processing (NLP) applications
2020 Fall:	**Course Instructor**: Deep Learning (ECE 09595 and ECE 09494) **Course Instructor**: Engineering Clinics (ENGR 01303/01403), Two sections: (1) Prosthetic arm design and (2) Deep learning for the real world – adversarial attacks and defenses
2020 Spring:	**Course Instructor**: Digital Signal Processing (ECE 09351-3) **Course Instructor**: Engineering Clinics (ENGR 01303/01403), Two sections: (1) Prosthetic arm design and (2) Deep learning for the real world
2019 Fall:	**Course Instructor**: Reinforcement Learning (ECE 09595 and ECE 09494) **Course Instructor**: Engineering Clinics (ENGR 01303/01403), Two sections: (1) Prosthetic arm design and (2) Deep learning for the real world
2019 Spring:	**Course Instructor**: Deep Learning (ECE 09595 and ECE 09494) **Course Instructor**: Digital Signal Processing (ECE 09351) **Course Instructor**: Systems and Control – I (ECE 09321) **Course Instructor**: Engineering Clinics (ENGR 01303/01403), Two sections: (1) Prosthetic arm – electrical design and (2) Prosthetic arm – mechanical design
2018 Fall:	**Course Instructor**: Introduction to Digital Systems (ECE 09241), three sections **Course Instructor**: Signals and Systems (ECE 09341) **Course Instructor**: Engineering Clinics (ENGR 01303/01403), three sections: (1) Prosthetic arm – electrical design and (2) Prosthetic arm – mechanical design
2018 Spring:	**Course Instructor**: Deep Learning (ECE 09595 and ECE 09494) **Course Instructor**: Signals and Systems (ECE 09341) **Course Instructor**: Engineering Clinics (ENGR 01303/01403), three sections: (1) Prosthetic arm – electrical design, (2) Prosthetic arm – mechanical design, and (3) learning to deep learn
2017 Fall:	**Course Instructor (remotely with Dr. Bouaynaya)**: Engineering Clinics (ENGR 01303/01403), Two sections, Prosthetic arm – electrical design, and (2) Prosthetic arm – mechanical design

2. Other Courses and National symposia

Jun 29, 2022:	**Instructor**, Building Transformer-based Natural Language Processing, NVIDIA Deep Learning Institute, Public Student Workshop, North America, Virtual
Aug 9-11, 2021:	**Instructor**, Fundamentals of Deep Learning, Workshop organized at the 64th IEEE International Midwest Symposium on Circuits and Systems, Virtual

(https://www.mwscas2021.org/workshop-and-tutorials)

Feb 22, 2020: **Instructor**, Fundamentals of Deep Learning for Computer Vision, NVIDIA Sponsored Workshop, Rutgers Business School, Rutgers University

Nov 30, 2018: **Instructor**, Fundamentals of Deep Learning for Computer Vision, NVIDIA Sponsored Workshop, Rowan University, Glassboro, NJ

Nov 16, 2018: **Instructor**, Fundamentals of Deep Learning for Computer Vision, NVIDIA Sponsored Workshop, Rowan University, Glassboro, NJ

Oct 11, 2018: **Instructor**, Machine Learning and Data Analytics - I, Data, Big Data and Analytics, Lunch & Learn talk at Lockheed Martin, Virtual

Oct 25, 2018: **Instructor**, Machine Learning and Data Analytics - II, Data, Big Data and Analytics, Lunch & Learn talk at Lockheed Martin, Virtual

Nov 2018: **Instructor**, Machine Learning and Data Analytics - III, Data, Big Data and Analytics, Lunch & Learn talk at Lockheed Martin, Virtual

3. Teaching and Training Experience:

High school student training:

Moffitt Cancer Center

2023 Kavya Venkat, Old Bridge High School, NJ

2023

Rowan University

2022 Kavya Venkat, Old Bridge High School, NJ

2020-2021 Mentored multiple high school students, including Kavya Venkat, Bhavini Pandey, Lucas Eberhardt, and Neal Patel from different High Schools from NJ

Undergraduate training:

Moffitt Cancer Center

2023 Summer Sabrina Khan

2023 Isabel Ung

Rowan University

2018-2022 at the School of Engineering of the Rowan University, Glassboro, NJ

Richard Rivera,	Nicholas Lepold,	Ryan C Meehan,	Fowad Sohail,
Richard S Stelts,	Eric Wolan,	Keith C Brockunier,	Nicholas Gambino
Leonardo D F-Flores	Yael Garcia	Melody R Probert	Hayley Shuster
Aidan Sorensen	Matthew Basens	James Garofolo	Aakash Tripathi
Bhavik C Malkani	Dana Yarem	Emily Corson	Tyle J Baer
Nicholas Lardieri	Hunter H Ford		

2016 Mentored a summer intern, Hilda MA Zhiyao, at the Rehabilitation Institute of Chicago and Northwestern University, Chicago.

Graduate training:

University of South Florida and Moffitt Cancer Center, Tampa, FL

2020 - continued **Major Professor**, Ph.D. Graduate Student Supervisory Committee for Mr. Asim Waqas

2020 - continued	**Major Professor**, Ph.D. Graduate Student Supervisory Committee for Ms. Sabeen Ahmed
2022 - continued	**Major Professor**, Ph.D. Graduate Student Supervisory Committee for Mr. Aakash Tripathi
2023 – continued	**Major Professor**, Ph.D. Graduate Student Supervisory Committee for Mr. Nikolas Koutsoubis
2023 – continued	Ashwin Mukund, Johns Hopkins University, graduate trainee
2023 – continued	Thang Nguyen, Department of Mathematics, USF, graduate trainee

Rowan University, Glassboro, NJ

2018 - continued	**Co-Advisor** (with Dr. Nidhal Bouaynaya), Ph.D. Graduate Student Supervisory Committee for Mr. Hikmat Khan
2019 - continued	**Co-Advisor** (with Dr. Nidhal Bouaynaya), Ph.D. Graduate Student Supervisory Committee for Mr. Christopher Angelini
2019 - 2023	**Co-Advisor** (with Dr. Nidhal Bouaynaya), Ph.D. Graduate Student Supervisory Committee for Ms. Giuseppina Carannante
2019 - continued	**Co-Advisor** (with Dr. Ravi Ramachandran), Ph.D. Graduate Student Supervisory Committee for Mr. Jacob Epifano
2020 - continued	**Co-Advisor** (with Dr. Ravi Ramachandran), Ph.D. Graduate Student Supervisory Committee for Mr. Ian Nielsen
2021-2023	Major Professor, MS Supervisory Committee for Mr. Yassine Barhoumi
2021-2022	Major Professor, MS Supervisory Committee for Mr. Abduallah Nasir
2020-2021	Member, MS Supervisory Committee for Mr. Mahmut Gemici
2019-2021	Member, MS Supervisory Committee for Mr. David Specht
2018-2020	Member, MS Supervisory Committee for Mr. Eric Feuerstein
2016-2018	Member, MS Supervisory Committee for Mr. Oliver Palumbo
2015-2016	Member, MS Supervisory Committee for Mr. Hamdi Albunashee, University of Arkansas at Little Rock, Little Rock, AR

Residents/Clinical Fellows/Post-Doctoral trainees:

2023-contunued:	Iryna Hartsock, Department of Machine Learning, Moffitt Cancer Center.
2020-2021:	Dimah Dera, PhD, Department of Electrical and Computer Engineering, Rowan University, now Assistant Professor in the Electrical and Computer Engineering department of University of Texas Rio Grande Valley (UTRGV), Rio Grande Valley, TX

Honors and Awards

1. Rowan University, NSF I-Corps Team Award, 2018.
2. Google Inc, Google Faculty Institute Travel Award, 2018.
3. Rehabilitation Institute Chicago, Brinson Foundation Postdoctoral Fellowship, 2014-2016.
4. University of Arkansas at Little Rock, Student Research Expo, Best Student Poster (3rd Position), 2014
5. University of Arkansas at Little Rock, Outstanding Doctoral Student, 2013
6. University of Arkansas at Little Rock, Student Research Expo, Best Student Poster (1st Position), 2013

7. University of Arkansas at Little Rock, Outstanding Doctoral Student, 2012
8. University of Arkansas at Little Rock, Student Research Expo, Best Student Poster (2nd Position), 2012
9. IEEE GENSIPS, National Science Foundation Travel Grant, 2012
10. University of Arkansas at Little Rock, Graduate Assistantship Award, 2011-2014

Research Support

Current

External Grants:

Account #: (under processing)
Name of Moffitt PI**: Rasool**
Dates: 08/2023 – 07/2025
Funding Source: NIH SBIR Phase II with an industry partner, IBIS, Inc.
Title: De-Identification Automated de-identification of radiology and pathology data
% Effort: 20%
Role in the Study: Moffitt PI
Moffitt Part of the Award: $521,834
Total Amount of Award: $1,998,445

Account #: 15-22235-99-01
Name of PI**: Rasool**
Dates: 05/20 – 08/23
Funding Source: National Science Foundation (NSF)
Title: Self-Assessment and Continual Learning on Edge Devices (NSF # **2234836**) (Link)
% Effort: 15
Role in the Study: PI
Total Amount of Award: $499,978

Account #: 15-22248-99-01
Name of PI**: Rasool**
Dates: 03/23 – 08/23
Funding Source: NSF Award: 2304799
Title: I-Corps: Detecting Performance Degradation and Failures of Deep Neural Networks in Cancer Imaging (NSF # **2304799**) (Link)
% Effort: 10%
Role in the Study: PI
Total Direct Costs: $45,000
Total Amount of Award: $50,000

Account #: 15-22365-99-01
Name of PI**: Rasool**
Dates: 08/2023 – 7/2025
Funding Source: NSF PFI
Title: Trustworthy Artificial Intelligence for the Volumetric Evaluation of Brain Tumors (NSF # 2234468) (Link)
% Effort: 10%
Role in the Study: PI
Total Amount of Award: $249,979

Account #:
Name of PI: Schabath
Dates: 06/02/2021-04/30/2026
Funding Source: Florida Biomedical Research Program (FBRP)/Bankhead-Coley Cancer Resrarch Program
Title: Non-invasive radiomic biomarkers to predict treatment response for immunotherapy of lung cancer
% Effort: 5%
Role in the Study: Co-I
Total Amount of Award: $1,327,180

Internal Grants:
None

Pending

External Grants:

Name of PI**: Jennifer Permuth**
Dates: 01/2024 – 12/2025
Funding Source: NIH R37
Title: Using Radiogenomics to Noninvasively Predict the Malignant Potential of Intraductal Papillary Mucinous Neoplasms of the Pancreas and Uncover Hidden Biology
% Effort: 3%
Role in the Study: Co-I
Total Amount of Award: $1,685,500
Date Submitted: 02/2023
Preliminary Score if available: The PI informed that the grant is being funded

Name of PI**: John Cleveland/Project Leader: Than Thieu**
Dates: 09/2023 – 08/2024
Funding Source: NIH P30 CA076292 (Administrative Supplement)
Title: Applying Large Language Models to Accelerate Abstraction of Cancer Pathology Reports for Cancer Registry (LLMs for Unstructured Data Extraction)
% Effort: 3%
Role in the Study: Co-I
Total Amount of Award: $299,999
Date Submitted: 07/2023
Preliminary Score if available: The Project Leader informed that the grant is being funded

Name of PI**: Rasool**
Dates: 02/2024 – 01/2029
Funding Source: NSF CAREER
Title: CAREER: Networks (Bayesian Hierarchical Graph Neural BRIGHT)
% Effort: 10%
Role in the Study: PI
Total Amount of Award: $759,773
Date Submitted: 7/25/2023
Preliminary Score if available:

Name of PI**: Rasool**

Dates: 04/2024-03/2027
Funding Source: NIH/NCI
Title: Vision-Language Conversational AI for Neuro-oncology Tumor Board
% Effort: 20%
Role in the Study: PI
Total Amount of Award: $674,000
Date Submitted: 06/14/2023
Preliminary Score if available:

Name of PI**: Rasool/Schabath**
Dates: 04/2024-03/2029
Funding Source: NIH/NCI
Title: Predictive Biomarkers for Immunotherapy – An Approach Based on Foundation Models
% Effort: 25%
Role in the Study: PI
Total Amount of Award: $3,877,556
Date Submitted: 06/05/2023
Preliminary Score if available:

Name of PI**: Karolak/Rasool**
Dates: 11/2023-11/2025
Funding Source: Hirshberg Foundation
Title: Toward Intelligent and Multimodal Personalized Risk Prediction for IPMNs
% Effort: 6%
Role in the Study: PI
Total Amount of Award: $75,000
Date Submitted: 08/15/2023
Preliminary Score if available:

Internal Grants:

Name of PI**: Ghulam Rasool**
Dates: 07/2023 – 06/2024
Funding Source: Moffitt Team Sciences Award
Title: Building Visual-Language Conversational AI for Neuro-oncology Tumor Board
% Effort: 5%
Role in the Study: PI
Total Amount of Award: $150,000
Date Submitted: 03/2022
Preliminary Score if available: None

Name of PI**: Ghulam Rasool**
Dates: 10/2023 – 09/2024
Funding Source: M-CARES Awards (Research Enhancement Support) Moffitt Cancer Center and Research Institute-Center of Excellence-COEE
Title: Evaluating the Safety, Reliability, and Utility of AI Chatbots in Providing Cancer-Related Information
% Effort: 2.5%
Role in the Study: PI
Total Amount of Award: $50,000
Date Submitted: 07/2023
Preliminary Score if available: None

Completed

Internal Grants:

Account #: 30-20458-04-69
Name of PI**: Parker**
Dates: 09/2022 – 06/2023
Funding Source: HOB Innovation Funds
Title: Developing machine learning algorithms to automatically select appropriate images and detect body composition changes using computerized tomography (CT) scans
% Effort: 5
Role in the Study: Develop machine learning models
Total Direct Costs: $30,000
Total Amount of Award: $30,000

External Grants:

Name of PI**: Ghulam Rasool**
Dates: 2018-2021
Source: US Department of Education
Title: Rowan's Prepare.AI - Rowan's Graduate Fellowship Prepares for the Modern Age of AI
% Effort: 10
Role in the Study: PI
Total Amount of Award: $1.25 M

Name of PI**: Ghulam Rasool**
Dates: 2020-2021
Source: US Department of Education
Title: Trustworthy Artificial Intelligence for the Detection of COVID-19
% Effort: 10
Role in the Study: PI
Total Amount of Award: $50,370

Name of PI**: Ghulam Rasool**
Dates: 2020-2022
Source: Camden Health Initiative of Rowan University
Title: Transforming Neuroimaging with Trustworthy and Reliable Artificial Intelligence
% Effort: 5
Role in the Study: PI
Total Amount of Award: $100,000

Name of PI**: Ghulam Rasool**
Dates: 2018-2020
Source: New Jersey Health Foundation
Title: An Enhanced Bionic Limb
% Effort: 5
Role in the Study: PI
Total Amount of Award: $35,000

Name of PI**: Ghulam Rasool**
Dates: 2019-2021
Source: New Jersey Health Foundation
Title: An Enhanced Bionic Limb – Next Steps
% Effort: 5
Role in the Study: PI
Total Amount of Award: $35,000

Name of PI**: Ghulam Rasool**
Dates: 2020-2021
Source: Lockheed Martin
Title: Uncertainty Estimation in Sequence Models with Bayesian Machine Learning
% Effort: 20
Role in the Study: PI
Total Amount of Award: $114,409

Name of PI**: Ghulam Rasool**
Dates: 2021-2022
Source: US Dept of Transportation (through UTC/CAIT Rutgers University)
Title: Rotorcraft Landing Sites: Scaling and Generalizing the AI-Based Identification System
% Effort: 10
Role in the Study: PI
Total Amount of Award: $60,000

Name of PI**: Ghulam Rasool**
Dates: 2020-2021
Source: US Dept of Transportation (through UTC/CAIT Rutgers University)
Title: Rotorcraft Landing Sites: Rotorcraft Landing Sites: An AI-Based Identification System
% Effort: 10
Role in the Study: PI
Total Amount of Award: $80,000

Name of PI**: Nidhal Bouaynaya**
Dates: 2019-2022
Source: NSF
Title: Towards Safe and Reliable Autonomy in Sensor Driven Systems (NSF # **1903466**) (Link)
% Effort: 10
Role in the Study: Co-PI
Total Amount of Award: $299,592

Name of PI**: Nidhal Bouaynaya**
Dates: 2018-2022
Source: Federal Aviation Administration (FAA)
Title: Visualization of Rotorcraft Safety within a CAVE Virtual Reality Environment
% Effort: 10
Role in the Study: Co-PI
Total Amount of Award: $299,592

Contracts:
Name of PI**: Tony O Sullivan**
Dates: 2021-2022
Source: NIH
Title: De-Identification Software Tools and Pipelines for Cancer Imaging Research

% Effort: 5
Role in the Study: Consultant
Total Amount of Award: $400,000

Patents

1. Method for Uncertainty Estimation in Deep Neural Networks, Hassan Fathallah-Shaykh, Nidhal Bouaynaya, Ghulam Rasool, and Dimah Dera, International Patent Application No: PCT/US2020/053441, filed on September 30, 2020. (https://patents.google.com/patent/US20220366223A1/en)

Service

Moffitt Cancer Center

Committees:

2023 - :	Member, Moffitt HPC Committee
2022 - :	Member, Moffitt Research IT Council
2022 - :	Member, ML Vice Chair Search Committee
2023	DGX H-100 purchase group

Service at Rowan University:

2019- 2020:	Member, Faculty Search Committee.
2021-2022:	Curriculum Committee.
2021:	Member, Anti-Racist Pedagogy and Practices Task Force

Profession:

2022	Guest reviewer, Journal of Alzheimer's Disease
2022	Guest reviewer, Transactions on Biomedical Engineering
2020-2021	NSF Reviewer
2019-2021	NSF XSEDE Campus Champion
2019-continued	NVIDIA Ambassador for Rowan University
2020 - 2021	Special Session and Program Chair, International Joint Conference on Neural Networks (IJCNN)
2020 - 2021	Guest Reviewer, Neural Networks
2020	Program Chair, Practice and Experience in Advanced Research Computing (PEARC20)
2020	Guest reviewer, IEEE Transaction on Neural Systems and Rehabilitation Engineering
2018	Guest reviewer, International Conference on Control, Engineering & IT (CEIT)
2018	Guest reviewer, IEEE Access
2016	Guest reviewer, Journal of NeuroEngineering and Rehabilitation
2016	Guest reviewer, IEEE Transactions on Biomedical Engineering
2016	Guest reviewer, IEEE Engineering in Medicine and Biology Conference
2016	Guest reviewer, PLOS One

Professional Association Memberships

2014 – Continued:	Member, Institute of Electrical and Electronics Engineering (IEEE)
2022 – Continued:	Member, American Association for Cancer Research (AACR)
2022 – Continued:	Member, Digital Pathology Association (DPA)
2021 – Continued:	Member, Society for Imaging Informatics in Medicine (SIIM)

Peer-Reviewed Publications

Under Review

1. Giuseppina Carannante, Nidhal Bouaynaya, Lyudmila Mihaylova, and **Ghulam Rasool**, "BaSIS-Net: From Point Estimate to Predictive Distribution in Neural Networks - A Bayesian Sequential Importance Sampling Framework", under review in IEEE Transactions on Neural Networks and Learning Systems.
2. Giuseppina Carannante, Dimah Dera, Nidhal Bouaynaya, Hassan M. Fathallah-Shaykh, and **Ghulam Rasool** "SUPER-Net: Trustworthy Medical Segmentation with Uncertainty Estimation", under review. Pre-print available at: https://arxiv.org/abs/2111.05978.
3. Asim Waqas, Aakash Tripathi, Ravi P. Ramachandran, Paul Stewart, and **Ghulam Rasool**, "Multimodal Data Integration for Oncology in the Era of Deep Neural Networks: A Review", under review. Preprint available at: https://arxiv.org/abs/2303.06471
4. Jacob Epifano, Ravi Ramachandran, and **Ghulam Rasool**, "Deployment of a Robust and Explainable Mortality Prediction Model: The COVID-19 Pandemic and Beyond", under review in Thirty-Eighth AAAI Conference on Artificial Intelligence.

2023

Peer-Reviewed Journals

1. Asim Waqas, Marilyn M. Bui, Eric F. Glassy, Issam El Naqa, Piotr A. Borkowski, Andrew A. Borkowski, **Ghulam Rasool**, "Revolutionizing Digital Pathology with the Power of Generative AI and Foundation Models", accepted for publication in Laboratory Investigation.
2. Yassine Barhoumi, Nidhal C. Bouaynaya, **Ghulam Rasool**, "Efficient Scopeformer: Towards Scalable and Rich Feature Extraction for Intracranial Hemorrhage Detection", accepted for publication in IEEE Access. Pre-print available at: https://arxiv.org/abs/2302.00220.
3. Ian E. Nielsen1, Ravi P. Ramachandran, Nidhal Bouaynaya1, Hassan M. Fathallah-Shaykh, **Ghulam Rasool**, "EvalAttAI: A Holistic Approach to Evaluating Attribution Maps in Robust and Non-Robust Models", accepted for publication in IEEE Access. Preprint available at: https://arxiv.org/abs/2303.08866
4. Dimah Dera, Sabeen Ahmed, Nidhal Bouaynaya, and **Ghulam Rasool**, "TRUST-RNNs: Trustworthy Recurrent Uncertainty Propagation", accepted for publication in IEEE Transactions on Knowledge and Data Engineering. Available at: https://doi.ieeecomputersociety.org/10.1109/TKDE.2023.3288628
5. Sabeen Ahmed, Ian Nielsen, Akash Tripathi, Ravi Ramachandran, and **Ghulam Rasool**, "Transformers for Time-series Analysis: A Tutorial", accepted for publication in accepted for publication in Circuits, Systems, and Signal Processing (CSSP). Available at: https://doi.org/10.1007/s00034-023-02454-8.
6. Jacob Epifano, Ravi Ramachandran, Aaron Masino, and **Ghulam Rasool**, "Revisiting the Fragility of Influence Functions", Neural Networks, vol 162, May 2023, 581-588, https://doi.org/10.1016/j.neunet.2023.03.029
7. Mashood M. Mohsan, M. Usman Akram, **Ghulam Rasool**, Norah Saleh Alghamdi, M. Abdullah Aamer Baqai, Muhammad Abbas, "Vision Transformer and Language Model based Radiology Report Generation", in IEEE Access, vol. 11, pp. 1814-1824, 2023,

https://doi.org/10.1109/ACCESS.2022.3232719.

2022

8. Asim Waqas, Nidhal Bouaynaya, Hama Farooq, and **Ghulam Rasool**, "Exploring Robust Architectures for Deep Artificial Neural Networks", Nature Communication Engineering 1, 46 (2022). (https://doi.org/10.1038/s44172-022-00043-2).
9. Sabeen Ahmed, Dimah Dera, Muhammad Saud Ul Hassan, Nidhal Bouaynaya and **Ghulam Rasool**, "Failure Detection in Deep Neural Networks for Medical Imaging", Frontiers in Medical Technology, 4:919046. https://doi.org/10.3389/fmedt.2022.919046.
10. Ian Nielsen, Dimah Dera, **Ghulam Rasool**, Nidhal C. Bouaynaya and Ravi P. Ramachandran, "Robust Explainability: A Tutorial on Gradient-Based Saliency Methods for Deep Neural Networks", IEEE Signal Processing Magazine (SPM) Special Issue on Explainability in Data Science: Interpretability, Reproducibility, and Replicability. Available at: https://doi.org/10.48550/arXiv.2107.11400 and https://ieeexplore.ieee.org/document/9810053

2021 and Earlier

11. Dimah Dera, Nidhal Bouaynaya, **Ghulam Rasool**, and Hassan M. Fathallah-Shaykh, "PremiUm-CNN: Propagating Uncertainty Towards Robust Convolutional Neural Networks", IEEE Transactions on Signal Processing, 2021. https://ieeexplore.ieee.org/abstract/document/9485030
12. Daniel E. Cahall, **Ghulam Rasool**, Nidhal C. Bouaynaya and Hassan M. Fathallah-Shaykh, "Inception Modules Enhance Brain Tumor Segmentation", Frontiers in Computational Neuroscience 13 (2019): 44. https://www.frontiersin.org/articles/10.3389/fncom.2019.00044.
13. Nesrine Amor, **Ghulam Rasool**, Nidhal Carla Bouaynaya, and Roman Shterenberg, "Constrained Particle Filtering for Movement Identification in Forearm Prosthesis", Signal Processing, 161 (2019): 25-35. (https://doi.org/10.1016/j.sigpro.2019.03.012)
14. **Ghulam Rasool**, William Z. Rymer, Allison Wang, and Sabrina Lee, "Shear Waves Reveal Viscoelastic Changes in Skeletal Muscles After Hemispheric Stroke", IEEE Transactions on Neural Systems and Rehabilitation Engineering, 26(10), pp 2006-2014, 2018. (https://doi.org/10.1109/TNSRE.2018.2870155)
15. **Ghulam Rasool**, Babak Afsharipour, Nina L. Suresh and William Zev Rymer, "Spatial pattern analysis of muscle architectural changes post-stroke", IEEE Transactions on Neural Systems and Rehabilitation Engineering 25(10), pp 1802 – 1811, 2017. (https://doi.org/10.1109/TNSRE.2017.2682298)
16. **Ghulam Rasool**, Kamran Iqbal, Nidhal Bouaynaya and Gannon White, "Real-time Task Discrimination for Myoelectric Control Employing Task-Specific Muscle Synergies", IEEE Transactions on Neural Systems and Rehabilitation Engineering, 24(1), pp 98-108 2015. (https://doi.org/10.1109/TNSRE.2015.2410176)
17. Mufassir Abdur Rahim, **Ghulam Rasool**, Nasir Ahmad, "EMG-Controlled Transradial Prostheses - An Investigation into Machine Learning Techniques", International Journal of Computer Applications, 174(3):1-8, September 2017. (https://doi.org/10.5120/ijca2017915354)
18. Gregory S. Taylor, Yupo Chan and **Ghulam Rasool**, "A Three-Dimensional Bin-Packing Model: Exact Multi-criteria Solution and Computational Complexity" Annals of Operations Research, 251, 397–427, 2017. (https://doi.org/10.1007/s10479-015-2048-5)
19. H. Albunashee, **Ghulam Rasool**, K. Iqbal, and G. White. "A New Technique to Improve the Operation of Prosthetic Limbs during Muscle Fatigue." Journal of the Arkansas Academy of Science 70.1 (2016): 35-39. (https://scholarworks.uark.edu/jaas/vol70/iss1/9/)
20. **Ghulam Rasool**, Nidhal Bouaynaya, Kamran Iqbal, and Gannon White, "Surface Myoelectric Signal Classification Using the AR-GARCH Model", Biomedical Signal Processing and Control, 13 (2014): 327-336. (https://doi.org/10.1016/j.bspc.2014.06.001)
21. **Ghulam Rasool**, Kamran Iqbal, Gannon A. White, "Myoelectric activity detection during a Sit-to-Stand movement using threshold methods", Computers and Mathematics with Applications, 64(5), 1473-1483, September 2012. (https://doi.org/10.1016/j.camwa.2012.03.094)

Peer-Reviewed Conference

2023

1. Christopher Angelini, Nidhal Bouaynaya, and **Ghulam Rasool**, "Variational Density Propagation Continual Learning", accepted for publication in 2023 International Symposium on Image and Signal Processing and Analysis. (https://doi.org/10.48550/arXiv.2308.11801)
2. Ian E. Nielsen, Erik Grundeland, Joseph Snedeker, Ravi P. Ramachandran, and **Ghulam Rasool**, "Targeted Background Removal Creates Interpretable Feature Visualizations", accepted for publication in IEEE MWSCAS 2023. (https://arxiv.org/abs/2306.13178)
3. Hikmat Khan, Nidhal C. Bouaynaya, and **Ghulam Rasool**, "The Importance of Robust Features in Mitigating Catastrophic Forgetting", accepted for publication in 28th IEEE symposium on Computers and Communications (ISCC 2023), Tunisia. (https://arxiv.org/abs/2306.17091)
4. Jacob Epifano, Aakash Tripathi, Alison Silvestri, Alexander Yu, Ravi Ramachandran, and **Ghulam Rasool**, "A Comparison of Feature Selection Techniques for First-day Mortality Prediction in the ICU", 2023 IEEE International Symposium on Circuits and Systems, Monterey, California, USA, May 21 - 25, 2023. (https://jrepifano.github.io/papers/featureselection.pdf)

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5. Giuseppina Carannante, Dimah Dera, Orune Aminul, Nidhal Bouaynaya, and **Ghulam Rasool**, "Self-Assessment and Robust Anomaly Detection with Bayesian Deep Learning", 25th International Conference on Information Fusion (FUSION 2022), Linköping, Sweden, 4- 7 July 2022. Available at: https://doi.org/10.23919/FUSION49751.2022.9841358
6. Hikmat Khan, Nidhal Bouaynaya, and **Ghulam Rasool**, "Adversarially Robust Continual Learning", International Joint Conference on Neural Network (IJCNN) 2022, Padua, Italy, July 18-23. Available at: https://doi.org/10.1109/IJCNN55064.2022.9892970

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7. Yassine Barhoumi, **Ghulam Rasool**, "Scopeformer: n-CNN-ViT hybrid model for Intracranial hemorrhage subtypes classification", *2021 Medical Imaging with Deep Learning conference (MIDL)*. Available at: https://openreview.net/pdf?id=M1VznPOV5jV.
8. Shamoon Siddiqui, **Ghulam Rasool**, Ravi Ramachandran, "The Case Against Sentiment Analysis for Natural Text", *2021 International Joint Conference on Neural Networks (IJCNN)*, 2021. Available at: https://doi.org/10.1109/IJCNN52387.2021.9533870.

2020

9. Giuseppina Carannante, Dimah Dera, **Ghulam Rasool**, and Nidhal Bouaynaya, "Self-Compression in Bayesian Neural Networks", *IEEE International Workshop on Machine Learning for Signal Processing (MLSP)*, Sep 21-24, 2020, Espoo, Finland. Available at: https://doi.org/10.1109/MLSP49062.2020.9231550.
10. Giuseppina Carannante, Dimah Dera, **Ghulam Rasool**, Nidhal Bouaynaya, and Lyudmila Mihaylova, "Robust Learning via Ensemble Density Propagation in Deep Neural Networks", *IEEE International Workshop on Machine Learning for Signal Processing (MLSP)*, Sep 21-24, 2020, Espoo, Finland. Available at: https://doi.org/10.1109/MLSP49062.2020.9231635.
11. Shamoon Siddiqui, **Ghulam Rasool**, Ravi Ramachandran and Nidhal Bouaynaya, "Evaluating Speech Enhancement Methods through Deep Speech Recognition", *IEEE International Joint Conference on Neural Networks (IJCNN)*, Jul 19-24, 2020, Glasgow, Scotland, United Kingdom. Available at: https://ieeexplore.ieee.org/document/9206817.
12. Stephen Kovarik, Liam Doherty, Kiran Korah, Brian Mulligan, **Ghulam Rasool**, Yusuf Mehta, Parth Bhavsar and Mike Paglione, "Comparative Analysis of Machine Learning and Statistical Methods for Aircraft Phase of Flight Prediction", *9th International Conference on Research in Air Transportation (ICRAT '20)*, Sep 15, 2020, Virtual. Available at: http://www.icrat.org/ICRAT/seminarContent/2020/abstracts/ICRAT_2020_Abstract_38.pdf.
13. Dimah Dera, **Ghulam Rasool**, and Nidhal Bouaynaya, "Bayes-SAR Net: Robust SAR Image Classification with Uncertainty Estimation Using Bayesian Convolutional Neural Network", in *IEEE International Radar Conference 2020*, April 27 - May 1, 2020, Washington DC, USA. Available at: https://ieeexplore.ieee.org/abstract/document/9114737

2019

14. [Best Student Paper Award – First Position] Dimah Dera, **Ghulam Rasool**, and Nidhal Bouaynaya, "Extended Variational Inference for Propagating Uncertainty in Convolutional Neural Networks", *IEEE International Workshop on Machine Learning for Signals Processing (MLSP)*, Oct 13-16, 2019, Pittsburgh, PA, USA. (https://ieeexplore.ieee.org/document/8918747)
15. Hikmat Khan, **Ghulam Rasool**, Nidhal C. Bouaynaya, Charles C. Johnson, "Explainable AI: Rotorcraft Attitude Prediction", *Vertical Flight Society Forum 76 Proceedings*, Oct 5-8, Virtual. (https://vtol.org/annual-forum/technical-session-schedule)
16. Eric Feuerstein, Ramachandran Ravi, **Ghulam Rasool**, Nidhal C. Bouaynaya, Charles C. Johnson, "Artificial Intelligence for Helicopter Safety: Head-Pose Detection in the Cockpit", Vertical Flight Society Forum 76 Proceedings, Oct 5-8, Virtual. (https://vtol.org/annual-forum/technical-session-schedule)
17. Hikmat Khan, **Ghulam Rasool**, Nidhal C. Bouaynaya, Charles C. Johnson, "Rotorcraft Flight Information Inference from Cockpit Videos using Deep Learning", Vertical Flight Society Forum 75 Proceedings, Philadelphia, PA, USA May 13-16, 2019. (https://vtol.org/store/product/rotorcraft-flight-information-inference-from-cockpit-videos-using-deep-learning-14708.cfm)

2018 and earlier

18. Nesrine Amor, **Ghulam Rasool**, Nidhal Bouaynaya, Roman Shterenberg, "Hand Movement Discrimination Using Particle Filters", *in 2018 IEEE Signal Processing in Medicine and Biology Symposium*, Philadelphia, PA, USA, 1 December 2018. (https://doi.org/10.1109/SPMB.2018.8615592)
19. **Ghulam Rasool**, Allison Wang, William Zev Rymer, Sabrina Lee, "Altered Viscoelastic Properties of Stroke-Affected Muscles Estimated Using Ultrasound Shear Waves – Preliminary Data", in *38th Annual International IEEE EMBS Conference*, Orlando USA, 16-20 August 2016. (https://doi.org/10.1109/EMBC.2016.7591328)
20. Babak Afsharipour, Milap Sandhu, **Ghulam Rasool**, and William Z. Rymer, "Using surface electromyography to detect changes in innervation zones pattern after human cervical spinal cord injury", in *38th Annual International IEEE EMBS Conference*, Orlando USA, 16-20 August 2016. (https://doi.org/10.1109/EMBC.2016.7591545)
21. Babak Afsharipour, Milap Sandhu, **Ghulam Rasool**, and William Z. Rymer, "Identifying Spinal Lesion Site from Surface EMG Grid Recordings", Converging Clinical and Engineering Research on *Neurorehabilitation* II. Springer International Publishing, 2017, pp 39-43. (https://doi.org/10.1007/978-3-319-46669-9_8)
22. **Ghulam Rasool**, Babak Afsharipour, Nina L. Suresh and William Zev Rymer, "Spatial Analysis of Muscular Activations in Stroke Survivors", in *37th Annual International IEEE EMBS Conference*, Milan Italy, 25-29 August 2015. (https://doi.org/10.1109/EMBC.2015.7319773)
23. **Ghulam Rasool**, Kamran Iqbal, Nidhal Bouaynaya and Gannon White, "Neural drive estimation using the hypothesis of muscle synergies and the state-constrained Kalman filter", in *6th IEEE EMBS Neural Engineering Conference*, San Diego, 6-8 November 2013. (https://doi.org/10.1109/NER.2013.6696056)
24. **Ghulam Rasool**, Nidhal Bouaynaya, Kamran Iqbal, "Muscle Activity Detection from the EMG signal based on the AR-GARCH Method", *in IEEE Statistical Signal Processing Workshop (SSP)*, Ann Arbor, August 5-8, 2012. (https://doi.org/10.1109/SSP.2012.6319721)
25. Ghulam Rasool, Nidhal Bouaynaya, "Inference of Time-Varying Gene Networks using Constrained and Smoothed Kalman Filtering," *in IEEE International Workshop on Genomic Signal Processing and Statistics (GENSIPS)*, Washington, DC, Dec 2-4, 2012. (https://doi.org/10.1109/GENSIPS.2012.6507756)
26. **Ghulam Rasool**, Nidhal Bouaynaya, Hassan Fathallah-Shaykh and Dan Schonfeld, "Inference of Genetic Regulatory Networks Using Regularized Likelihood with Covariance Estimation," *in IEEE Statistical Signal Processing Workshop (SSP)*, Ann Arbor, Aug 5-8, 2012. (https://doi.org/10.1109/SSP.2012.6319759)
27. **Ghulam Rasool** and Kamran Iqbal, "Muscle Activity Onset Detection Using Energy Detectors", in *34th Annual International IEEE EMBS Conference*, San Diego, USA, Aug 28 – Sep 1, 2012. (https://doi.org/10.1109/EMBC.2012.6346618)

28. **Ghulam Rasool**, Asif Mahmood Mughal, and Kamran Iqbal "Fuzzy Biomechanical Sit-To-Stand Movement with Physiological Feedback Latencies", *IEEE International Conference on System, Man and Cybernetics (SMC) 2010*, pp 316-321, Istanbul, Turkey, Oct 10-13, 2010. (https://doi.org/10.1109/ICSMC.2010.5641681)
29. **Ghulam Rasool**, Hamza Farooq and Asif Mahmood Mughal, "Biomechanical Sit-To-Stand Movement with Physiological Feedback Latencies", in *2nd International Conference on Mechanical and Electronics Engineering (ICMEE)*, Aug 1-3, 2010, pp V1-159-V1-163, Kyoto, Japan. (https://doi.org/10.1109/ICMEE.2010.5558573)

Non-Peer Reviewed Publications

1. Cahall, D. E., **Ghulam Rasool**, Bouaynaya, N. C., & Fathallah-Shaykh, H. M. (2021). Dilated Inception U-Net (DIU-Net) for Brain Tumor Segmentation. arXiv preprint arXiv:2108.06772. (https://arxiv.org/abs/2108.06772)
2. Amor, Nesrine, **Ghulam Rasool**, and Nidhal C. Bouaynaya. "Constrained state estimation-a review." arXiv preprint arXiv:1807.03463 (2018). (https://arxiv.org/abs/1807.03463)

Book Chapters

1. Asim Waqas, Dimah Dera, **Ghulam Rasool**, Nidhal Bouaynaya, and Hassan M. Fathallah-Shaykh, "Brain Tumor Segmentation and Surveillance with Deep Artificial Neural Networks", In: Elloumi M. (eds) Deep Learning for Biomedical Data Analysis. Springer, Cham, 2021. https://doi.org/10.1007/978-3-030-71676-9_13

Oral Presentations/ Poster Presentations/Scientific Abstracts

Peer-Reviewed Scientific Abstracts

1. **Ghulam Rasool** and Les Folio, Towards Patient Consumable Radiology Reports - Improving Content Signal-to-Noise Ratio (SNR) While Converting Medical Jargon to Plain English via GPT-4, accepted for presentation at the annual meeting of Radiological Society of North America (RSNA), Chicago, Nov 2023.
2. Joanna J. Song, Harshna V. Vadvala, Sabeen Ahmed, Sabrina Khan, Lucas S. Folio, **Ghulam Rasool**, João Santinha, Les R. Folio, Innovative Approaches to Tumor Volume Quantification: An Imaging Informatics Hackathon Challenge, Poster presented at the 2023 Annual Meeting Florida Radiological Society (FRS).
3. Asim Waqas, Paul Stewart, Hamza Farooq, **Ghulam Rasool**, Integrative Relational Learning on Multimodal Cancer Data for Improved Clinical Predictions, Poster Presentation at MCBIOS 2023 Conference, University of Dallas, Dallas, TX, March 15- 17, 2023.
4. M. DelRocini, C. Angelini and **Ghulam Rasool**, Identification of Abnormalities in Head Computerized Tomography Scans, The 2020 IEEE Signal Processing in Medicine and Biology Symposium, Philadelphia, PA, Dec 5, 2020. (https://ieeexplore.ieee.org/abstract/document/9353610)
5. Dimah Dera, **Ghulam Rasool** and Nidhal Bouaynaya, Robust Deep Learning Systems Integrated with Confidence Evaluation, 6th Annual NJBDA Symposium, NJ City, NJ April 2019.
6. **Ghulam Rasool**, Robust Deep Learning Systems Integrated with Confidence Evaluation, DARPA AI Colloquium, Alexandria, Virginia, 6-7 March 2019.
7. **Ghulam Rasool**, Babak Afsharipour, Nina L. Suresh, William Z. Rymer, "Alterations in spatial electromyogram patterns of hand muscles in hemiparetic stroke survivors" in Society for Neuroscience (SFN) Annual Meeting, San Diego USA, 12-16 November 2016.
8. **Ghulam Rasool**, William Z. Rymer, Allison Wang, and Sabrina Lee, "Altered Rheological Properties of Passive Skeletal Muscles in Chronic Stroke", in Biomechanics and Neural Control

of Movement (BANCOM), OH USA, 12-June 17, 2016.

9. **Ghulam Rasool**, William Z. Rymer, Allison Wang, and Sabrina Lee, "Changes in viscoelastic properties of muscles in chronic stroke", 2016 Congress of International Society of Electrophysiology and Kinesiology (ISEK), Chicago USA, July 5-8, 2016.
10. **Ghulam Rasool**, Babak Afsharipour, Nina L. Suresh, and William Z. Rymer, "Analysis of spatial muscle activation patterns post-stroke", 9th World Congress for Neuro Rehabilitation (WCNR), Philadelphia, 10-13 May 2016.
11. Babak Afsharipour, Milap Sandhu, **Ghulam Rasool**, William Z. Rymer, "Use of high-density EMG grid recordings to characterize the level of injury in individuals sustaining cervical spinal cord injury", 2016 Congress of International Society of Electrophysiology and Kinesiology (ISEK), Chicago USA, 5-8 July 2016.
12. **Ghulam Rasool**, Babak Afsharipour, Nina L. Suresh, Xiaogang Hu, William Z. Rymer, "Altered spatial muscle activation patterns reveal possible mechanisms of motor impairment in stroke" in Society for Neuroscience (SFN) Annual Meeting, Chicago USA, 17-21 October 2015.
13. Gregory S. Taylor, Yupo Chan, **Ghulam Rasool**, Richard Cronk, James T. Moore, "A Three-Dimensional Bin-Packing Model: Exact Multicriteria Solution and Computational Complexity", INFORMS annual meeting, Minneapolis, 6-9 October 2013.

Posters

1. Giuseppina Carannante, Nidhal Carla Bouaynaya, **Ghulam Rasool**, Lyudmila S Mihaylova, "Towards Trustworthy Machine Learning - a Bayesian Framework", DeepMath, San Diego, CA, Nov 17-18, 2022.
2. Antonio Abbondandolo, Kiran Korah, Jason Wilkowski, Brandon Nugent, Nick Setaro, Erik Brewer, **Gulam Rasool**, Nihdal Bouaynaya, and Emmanuel, LungPREDICT: Utilizing Artificial Intelligence to Differentiate between Benign and Malignant Lung Cancer Tumors, Zachariah, accepted in 2019 BMES Annual Meeting, Philadelphia, October 16-19, 2019.
3. Daniel Cahall, Nidhal Bouaynaya, **Ghulam Rasool**, Kiran Korah, Jason Wilkowski, Amanda Abruzzo, Erik Brewer, and Emmanuel Zachariah, Classification of Lung Tumor Grade in CT Images Using Random Forest, BMES/FDA Frontiers in Medical Devices Conference: The Role of Digital Evidence to Support Personalized Patient Healthcare, March 19-21, 2019, Washington, DC.
4. Dimah Dera and **Ghulam Rasool**, Robust Deep Learning Systems Integrated with Confidence Evaluation, Rowan University Student Scholars Symposium, April 25-26, 2019.
5. Hikmat Khan, **Ghulam Rasool**, and Nidhal Bouaynaya, Rotorcraft Flight Information Inference from Cockpit Videos using Deep Learning, Rowan University Student Scholars Symposium, April 25-26, 2019.
6. Christopher Angelini, **Ghulam Rasool**, Landmark-less Head Pose Tracking for Pilots using Recurrent Neural Networks, a Multi-Loss Approach, Rowan University Student Scholars Symposium, April 25-26, 2019.
7. Incremental Neural Architecture Search, Shamoon Siddiqui, **Ghulam Rasool**, Rowan University Student Scholars Symposium, April 25-26, 2019.
8. **Ghulam Rasool** and William Zev Rymer, Alterations in Spatial Electromyogram Patterns of Hand Muscles in Hemiparetic Stroke Survivors, Society for Neuroscience (SFN) Annual Meeting, San Diego USA, 12-16 November 2016.
9. **Ghulam Rasool** and William Zev Rymer, Changes in Viscoelastic Properties of Muscles in Chronic Stroke, Congress of International Society of Electrophysiology and Kinesiology (ISEK), Chicago USA, 5-8 July 2016.
10. **Ghulam Rasool** and William Zev Rymer, Altered Rheological Properties of Passive Skeletal Muscles in Chronic Stroke, Biomechanics and Neural Control of Movement (BANCOM), OH USA, 12-17June, 2016.
11. **Ghulam Rasool** and William Zev Rymer, Analysis of Spatial Muscle Activation Patterns Post-

Stroke, 9th World Congress for Neuro Rehabilitation (WCNR), Philadelphia, 10-13 May 2016.

12. **Ghulam Rasool** and William Zev Rymer, Altered Spatial Muscle Activation Patterns Reveal Possible Mechanisms of Motor Impairment in Stroke, Society for Neuroscience (SFN) Annual Meeting, Chicago USA, 17-21 October 2015.
13. **Ghulam Rasool** and Kamran Iqbal, Muscle Synergies Based Task Discrimination for Myoelectric Control, UALR Research and Creative Expo, UALR, 2014.
14. **Ghulam Rasool** and Kamran Iqbal, Neural Drive Estimation Using the Hypothesis of Muscle Synergies and the State-Constrained Kalman Filter, IEEE EMBS Neural Engineering Conference, San Diego, 6-8 November 2013.
15. **Ghulam Rasool**, Novel Methodology for Extraction of Control Information from the Myoelectric Signal using the AR-GARCH Model, UALR Research and Creative Expo, UALR, 2013.
16. **Ghulam Rasool** and Nidhal Bouaynaya, Inference of Genetic Regulatory Networks Using Regularized Likelihood with Covariance Estimation, Cyberinfrastructure Day, UALR, 2012.
17. **Ghulam Rasool**, Kamran Iqbal, and Gannon White, Myoelectric Activity Detection during Sit-to-Stand Using Threshold Methods, UALR Research and Creative Expo, UALR, 2012.

Invited Seminars

1. University of Texas Southwestern Medical Center, Feb 2023, Towards Building Trustworthy Machine Learning Models
2. Department of Health Outcomes and Behavior (HOB) Meeting at Moffitt Cancer Center, Dec 2022, Trustworthy Machine Learning
3. ML Memorial Workshop for Dr. Gillies, Clearwater, FL, Nov 2022, Brain Tumor Surveillance with Trustworthy Machine Learning
4. NeuroOncology Translational Research Interest Group (NOTRIG) Meeting at Moffitt Cancer Center, June 2022, Trustworthy AI for Brain Tumor Segmentation
5. 6th Annual SJ Neurovascular and Stroke Symposium, May 25, 2022, at The Mansion on Main Street in Voorhees, NJ, Trustworthy Machine Learning
6. Big Data Working Group (BigDAWG), Federal Aviation Administration (FAA), Virtual, April 2020, Towards Lifelong Learning with Self-Aware Neural Networks
7. AAPM Spring Symposium, Philadelphia, PA, May 2019, AI in Imaging & Radiation Oncology
8. Rowan Faculty Research Day, Rowan University, Mar 2019, Deep Learning. Is It the Answer to AI?
9. MD Anderson Cancer Center, Camden, NJ, Jan 2019, Bringing Deep Learning into Neuro-Oncology – Tumor Delineation and Surveillance
10. Lockheed Martin Internal Conference, Syracuse, NY (Online), Oct 2018, Machine Learning and Data Analytics, Moving AI into the Future
11. Rehabilitation Institute of Chicago, Chicago, IL, Jan 2014, Enhancing Myoelectric Control using Muscle Synergies
12. IEEE Little Rock Chapter Meeting, 2013, Myoelectric controlled powered prostheses – recent results.
13. Guest Speaker in HHPS-7323 Advanced Biomechanics, Department of Health, Human Performance and Sports Management, University of Arkansas at Little Rock, 2013, Application of the EMG signal in engineering.
14. IEEE Little Rock Chapter Meeting, Oct 2012, Myoelectric controlled powered prostheses – present trends and future prospects.

Other Education:

1. 01/2018 – 03/2018: NSF I-Corps Entrepreneurial Lead

2. 07/2018: Google Cloud Platform Fundamentals: Core Infrastructure, Online
3. 07/2018: How Google does Machine Learning, Online
4. 2015: COMSOL Workshop
5. 2012: Application of new technologies in rehabilitation