Dr. Sheikh Burhan Ul Haque

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Professional Summary

Assistant Professor and PhD in Computer Science, specializing in AI and Machine Learning with a focus on adversarial learning, deep learning robustness, AI based Cyber Security and DL based secure surveillance systems. Principal author of 11 SCI and 6 Scopus-indexed articles, 2 patents, 1 dataset, and 3 conference publications.

Academic Positions

- Assistant Professor, Department of Computer Applications, Cluster University Srinagar, J&K, India. *(May 2025 – Present).*
- Assistant Professor, School of Computer Science, Engineering and Technology, Bennett University, Greater Noida, India *(May 2024 – April 2025).*
- Teaching Assistant, Department of Computer Science, Aligarh Muslim University (AMU), India, *Academic Session 2023.*

Education

Aligarh Muslim University, Uttar Pradesh, India.

- *Doctor of Philosophy , in Department of Computer Science*. (Full-Time, July 2019- November 2024)
  - ◊**Title :** " Exploring and Mitigating the Vulnerabilities of Deep Learning Models".
  - ◊**Supervisor :** "Prof. Aasim Zafar".

University of Kashmir, Srinagar, India.

- *Master of Computer Application*. (2017)
  - ◊ **Project Title :** "Kash Cab (Cab Service Android App)".
  - ◊ **Aggregate Marks :** 8.00 CGPA

University of Kashmir, Srinagar, India.

- *Bachelor of Computer Application*. (2014)
  - ◊ **Project Title :** "Admission Management System".

Research Interests

Vulnerabilities in Deep Learning Models and Machine learning Models, Adversarial Learning, Generative Adversarial Networks, Adversarial Attacks, Computer Vision, Robust Deep Learning-Based Surveillance Systems, Robust Network Intrusion Detection Systems.

Technical Skills

- Expert in machine learning and deep learning frameworks, including TensorFlow, PyTorch, and Scikit-Learn.
- Proficient in data science libraries like Pandas, NumPy, and Matplotlib, Power-Bi for data manipulation and visualization.
- Skilled in MATLAB, C, C++, C#, and Java, with strong abilities in algorithm development.
- Experienced in MySQL and SQL Server for database design, query optimization, and management.
- Strong collaboration skills underpinned by robust interpersonal capabilities, ensuring effective team dynamics and cooperative work environments.

Awards and Achievements

- Qualified **UGC-NET-JRF** (Junior Research Fellowship) Examination in **2023**.
- Qualified **UGC-NET** (National Eligibility Test) Examination in **2017, 2018, 2019**.
- Qualified **JKSET** (Jammu & Kashmir State Eligibility Test) Examination in **2016**.
- Section Editor in Journal of Policy and Society by Academic Publishing Pte Ltd (2023-2024).

Journal Publications

1. **Sheikh Burhan Ul Haque** (2024). A Fuzzy-Based frame transformation to mitigate the impact of adversarial attacks in Deep Learning-Based Real-Time video surveillance systems. Applied Soft Computing, 112440. https://doi.org/10.1016/j.asoc.2024.112440. (**SCIE , Q1, Impact Factor: 7.2**).
2. **Sheikh Burhan Ul Haque** (2024). Mitigating adversarial threats in deep CT image diagnosis models via a dual-stage inference-time defense (2024). Applied Soft Computing, 163, 111909. https://doi.org/10.1016/j.asoc.2024.111909. (**SCIE , Q1, Impact Factor: 7.2**).
3. Khushnaseeb Roshan, Aasim Zafar and **Sheikh Burhan Ul Haque (2023).** Untargeted white- box adversarial attack with heuristic defence methods in real-time deep learning based network intrusion detection system. Computer Communications, 218, 97–113. https://doi.org/10.1016/j.comcom.2023.09.030. **(SCI, Q1, Impact Factor: 6.0).**
4. **Sheikh Burhan Ul Haque** and Aasim Zafar (2024). Robust Medical Diagnosis: A Novel Two-Phase Deep Learning Framework for Adversarial Proof Disease Detection in Radiology Images. Deleted Journal, 37(1), 308–338. https://doi.org/10.1007/s10278-023-00916-8. **(SCI, Q1, Impact Factor: 5.4).**
5. **Sheikh Burhan Ul Haque**, Aasim Zafar, , Sheikh Moeen Ul Haque, Sheikh Riyaz ul Haq, Mohassin Ahmad.Securing AI in Healthcare: A Three-Layer Defense to Mitigate Adversarial Noise Impact in Radiology Imaging, Biomedical Signal Processing and Control, Volume 109, 2025, 107969, ISSN 1746-8094, https://doi.org/10.1016/j.bspc.2025.107969. (**SCIE , Q1, Impact Factor: 4.9**)
6. **Sheikh Burhan Ul Haque** and Aasim Zafar (2023). Untargeted white-box adversarial attack to break into deep learning based COVID-19 monitoring face mask detection system. Multimedia Tools and Applications, 83(8), 23873–23899. https://doi.org/10.1007/s11042-023-15405-x. **(SCI, Q1, Impact Factor: 3.6).**
7. **Sheikh Burhan Ul Haque** and Aasim Zafar (2023). Unlocking adversarial transferability: a security threat towards deep learning-based surveillance systems via black box inference attack- a case study on face mask surveillance. Multimedia Tools and Applications, 83(8), 24749–24775. https://doi.org/10.1007/s11042-023-16439-x. **(SCI, Q1, Impact Factor: 3.6).**
8. **Sheikh Burhan Ul Haque** and Aasim Zafar (2023). Beyond accuracy and precision: a robust deep learning framework to enhance the resilience of face mask detection models against adversarial attacks. Evolving Systems (2023). https://doi.org/10.1007/s12530-023-09522-z. **(SCIE, Q2, IF: 3.6).**
9. **Sheikh Burhan Ul Haque** and Aasim Zafar (2023). Removing Adversarial Noise in X-ray Images via Total Variation Minimization and Patch-Based Regularization for Robust Deep Learning-based Diagnosis. Deleted Journal. https://doi.org/10.1007/s10278-023-00919-5. **(SCIE/SCI, Q1, IF: 5.4).**
10. **Sheikh Burhan Ul Haque** and Aasim Zafar. RRFMDS: Rapid Real-Time Face Mask Detection System for Effective COVID-19 Monitoring. SN COMPUT. SCI. 4, 288, Springer, March 2023. **(Scopus, Impact Factor: 3.78).**
11. **Sheikh Burhan Ul Haque** and Aasim Zafar. White-box inference attack: compromising the security of deep learning-based COVID-19 diagnosis systems. Int. j. inf. tecnol., Springer, October 2023. **(Scopus, Impact Factor: 3.07).**

12. Mohd Zaid Rashid, Aasim Zafar, **Sheikh Burhan Ul Haque** (2024). Initial Stage Oral Cancer Symptom Prediction Of Tobacco And Gutka Consumers Using Deep Learning Method: A Case Study On India. Afr. J. Biomed. Res. Vol. 27 (September 2024); 2582-2596. **(Scopus)**

13. **Sheikh Burhan Ul Haque** and Mohd Hanief Wani. Sophisticated face mask dataset: a novel dataset for effective coronavirus disease surveillance. IAES International Journal of Artificial Intelligence (IJ-AI), 13(1), 1030, IAES, March 2024. **(Scopus, Impact Factor: 2.92)**

14. **Sheikh Burhan Ul Haque**, Aasim Zafar, Sheikh Riyaz ul Haq, Sheikh Moeen Ul Haque, Mohassin Ahmad and Khushnaseeb Roshan. Threats to medical diagnosis systems: analyzing targeted adversarial attacks in deep learning-based COVID-19 diagnosis. Soft Comput (2025). https://doi.org/10.1007/s00500-025-10516-z. (**SCIE, Q1, Impact Factor: 3.2**).

15. **Sheikh Burhan Ul Haque**, Aasim Zafar. Lights, Camera, Adversary: Decoding the Enigmatic World of Malicious Frames in Real-Time Video Surveillance Systems. Neural Process Lett 57, 46 (2025). https://doi.org/10.1007/s11063-025-11756-8. (**SCIE, Q2, Impact Factor: 3.2**).

16. Aasim Zafar, Mohd Faiz, **sheikh Burhan ul haque.** Smart Agriculture: A Review of Machine And Deep Learning Techniques. Journal of Electrical Systems (2025). https://doi.org/10.52783/jes.8983 **(Scopus)**

17. Aasim Zafar, Mohd Saad, **sheikh Burhan ul haque**. Efficient and Privacy-Enhanced Federated Learning for Medical Imaging in Resource-Limited Environments. Journal of Electrical Systems (2025). https://doi.org/10.52783/jes.8972 **(Scopus)**

Patents

1. **Sheikh Burhan ul Haque, Aasim Zafar and Sheikh Moeen ul Haque**. ADVERSARIAL FRAME ATTACK AND ROBUST DEFENSE IN DEEP LEARNING-BASED VIDEO SURVEILLANCE SYSTEMS (**Filed on 16-04-2024**).
2. Jagendra singh, Narendra Pal Singh, Dr. Varsha Huddar, Aishwarya N Payannavar, Ratnesh Kumar Pandey, Mr. B. Karthik, Aman, **Sheikh Burhan Ul Haque**, Dr. Rohan S. Gurav, Sheikh Moeen Ul Haque, Jyoti Sharma. SMART AI-DRIVEN IOT SENSORS WITH NLP AND DEEP LEARNING FOR ADVANCED ASTHMA DIAGNOSIS, CONTINUOUS MONITORING, MANAGEMENT, AND PATIENT EDUCATION THROUGH INTEGRATED TECHNOLOGIES. (**Published on 04-10-2024**) .

Conferences

1. **Sheikh Burhan Ul Haque** and Aasim Zafar and Khushnaseeb Roshan Security Vulnerability in Face Mask Monitoring System," 2023 10th International Conference on Computing for Sustainable Global Development (INDIACom), New Delhi, India, 2023, pp. 231-237.,

2. Khushnaseeb Roshan, Aasim Zafar and **Sheikh Burhan Ul Haque**. A Novel Deep Learning based Model to Defend Network Intrusion Detection System against Adversarial Attacks," 2023 10th International Conference on Computing for Sustainable Global Development (INDIACom), New Delhi, India, 2023, pp. 386-391.,
3. **Sheikh Burhan Ul Haque**, Aasim Zafar, Adversarial Attack: Compromising the security of Deep Learning -Based COVID-19 Detection Systems, 2023 Ist International Conference on Emerging Computation Intelligence (ICECI), Aligarh, india, 2023.

Book Chapters

1. **Sheikh Burhan Ul Haque** , Aasim Shibli, A. R., & Gourinath, S. (2024). Diagnosing coronaviruses (COVID-19) using machine learning. In Elsevier eBooks (pp. 261–286). https://doi.org/10.1016/b978-0-323-95374-0.00011-7.

Data Set Published

1. Published the ”Sophisticated Face Mask Dataset” on Kaggle (September 2022) https://www.kaggle.com/datasets/shiekhburhan/face-mask-dataset

References

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