

Imran Jahid Khan

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🌐 ijk37.com • 🎓 Google Scholar • 📄 0009-0007-2666-3354 • 📍 Alabama, USA

Research Interests

Cyber-Physical Systems • Reinforcement Learning • AI Security & Robustness • Cybersecurity • Cloud-Based Control Systems • Resilient Autonomous Systems

Education

Tuskegee University, Alabama, USA

Aug 2025 – May 2027 (expected)

M.S. in Information Systems and Computer Security

Relevant Coursework: Database Systems, Data Networks & Cloud Computing, Data Analytics, Big Data Analytics, Network Security

Bangladesh University of Engineering & Technology (BUET), Dhaka

2011 – 2016

B.Sc. in Mechanical Engineering

Publications

PEER-REVIEWED / ACCEPTED

1. M. A. Rahman, I. J. Khan, and F. Wu, "Detection of Integrity Attacks in Cloud-Based Cyber-Physical Systems (CBCPS) Using Long Short-Term Memory (LSTM) Models," in *Proc. 2026 9th International Conference on Information and Computer Technologies (ICICT)*, pp. 533–538, 2026.
2. I. J. Khan, M. Hossain, M. A. Rahman, and F. Wu, "Resilience Analysis of Cloud-Controlled Cyber-Physical Systems Using a Reinforcement Learning CartPole Testbed," in *Proc. 2026 IEEE World AI IoT Congress (AllIoT)*, pp. 773–779, 2026.
3. I. J. Khan, M. Hossain, M. A. Rahman, and F. Wu, "Blockchain-Anchored Detection and Recovery for Resilient Reinforcement Learning-Based Cyber-Physical Systems," accepted, *7th Annual National HBCU Blockchain, FinTech, and AI Conference*, Morgan State University, 2026.

UNDER REVIEW

4. I. J. Khan, S. Tahmim, M. Hossain, M. A. Rahman, and F. Wu, "Reconstruction-Assisted Resilient Reinforcement Learning for the Artificial Pancreas under CGM Sensor Attacks," under review, *ISTHS Workshop, IEEE HealthCom*, 2026.
5. M. Hossain, I. J. Khan, M. A. Rahman, and F. Wu, "Evaluating Classical and Quantum Reinforcement Learning Controllers under Meal-Information Uncertainty in Artificial Pancreas Systems," under review, *ISTHS Workshop, IEEE HealthCom*, 2026.
6. S. Tahmim, I. J. Khan, and W. E. Collier, "An Auditable Evidence-Ranking Framework for AI-Assisted NMR Metabolomics in Breast Cancer Research," under review, *ISTHS Workshop, IEEE HealthCom*, 2026.

Honors & Scholarships

- **Full Scholarship (Graduate Assistantship)**, M.S. in Information Systems and Computer Security, Tuskegee University – 2025 (accepted)
- **Japan Human Resources Development Scholarship (JDS)**, Government of Japan, for graduate study at Hiroshima University – 2025 (declined)
- **Full Scholarship**, M.A. in Policy Economics, Williams College – 2025 (declined)
- **Prime Minister's Fellowship**, Government of Bangladesh – 2024
- **Foreign Master's Scholarship**, "Capacity Building of BCS Administration Academy (2nd Revised)" Project, Government of Bangladesh – 2024

Research Experience

Graduate Research Assistant

Aug 2025 – present

Dept. of Computer Science, Tuskegee University • Advisor: Dr. Mohammad Arafatur Rahman

- Research the security and resilience of cloud-based cyber-physical systems, focusing on learning-based control under adversarial and noisy conditions.
- Developed LSTM-based detection of controller integrity and replay attacks in cloud-based CPS.
- Built reinforcement-learning CartPole testbeds spanning tabular Q-learning, DQN, and PPO for resilience analysis, with reconstruction-assisted and blockchain-anchored detection and recovery against data-integrity attacks.

- Studied classical vs. quantum RL efficiency trade-offs.

Earlier Research Projects

2016

- Wind Turbine Blade Design for Optimum Power Output, B.Sc. thesis, BUET (2016).

Teaching Experience

Graduate Teaching Assistant

Aug 2025 – Dec 2025

Introduction to Computer Science, Dept. of Computer Science, Tuskegee University

Presentations

- Poster, AWS-MLU AI/ML Fall Teaching and Research Symposium & Student Poster Session, 2025.

Professional Experience (Bangladesh Civil Service)

Deputy Director (Senior Assistant Secretary)

Sep 2024 – Jul 2025

Export Promotion Bureau, Ministry of Commerce

- Conducted export-policy analysis with data-driven recommendations and digitized trade-facilitation processes with stakeholders.

Assistant Commissioner (Land) & Executive Magistrate

Nov 2022 – Aug 2024

Upazila Land Office, Patuakhali & Bhola, Ministry of Land

- Managed digital public-land records and data-driven monitoring; adjudicated disputes and coordinated field administration and digital reporting.

Assistant Commissioner & Executive Magistrate

Apr 2019 – Nov 2022

Office of the Deputy Commissioner, Cox's Bazar, Ministry of Public Administration

- Oversaw tourism facilitation, budget/HR management, and e-procurement; led disaster-relief and COVID-19 response using ICT for coordination.

Technical Skills

Programming: Python, R, C++, C, SQL, MATLAB

ML / Methods: Reinforcement Learning (tabular Q-learning, DQN, PPO), Data-driven Anomaly Detection and Recovery, Data Analytics

Networking & Cloud: Data Networks, Cloud Computing, Network Security

Dev Tools: Git/GitHub, Linux

Tools: SPSS, MS Office, Google Workspace, $\LaTeX$

Standardized Tests

GRE: 322 (V 155, Q 167, AW 3.5) – Dec 2024

IELTS Academic: 7.0 (L 8.0, R 7.5, W 6.5, S 6.5) – Jan 2024

Professional Training

Law & Administration, Public Procurement, Land Management, and Government Research – BPATC, BCSAA, LATC, and BIGM (2019–2025).