

Md Anisur Rahman Chowdhury

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Google Scholar: scholar.google.com/citations?user=NQyywPoAAAAJ | **Portfolio:** marcbsd.com

ResearchGate: researchgate.net/profile/Md-Anisur-Rahman-Chowdhury

Research Profile

Cybersecurity-focused researcher with a strong background in **cloud and physical network infrastructure security**, **serverless systems**, and **AI-driven intelligent firewalls**. My work centers on designing **practical, deployable security systems** that combine machine learning, Zero-Trust principles, and cloud-native architectures. I bring together academic research, real-world infrastructure experience, and full-stack system implementation to address modern security challenges in cloud and distributed environments.

Education

Master of Science in Information Technology

Gannon University, Erie, PA, USA

August 2024 – May 2026 (Expected)

CGPA: 3.93 / 4.00 (after 3rd semester)

- Graduate Assistant, Computer & Information Science Department
- Coursework includes Cloud Computing, Advanced Networking, Cybersecurity, Distributed Systems, and Data Analytics
- Strong upward academic trajectory with research-driven focus

Bachelor of Science in Computer Science & Engineering

Bangladesh

- Built foundational knowledge in programming, algorithms, databases, and networking

Research Experience

Graduate Assistant – Research & Teaching Support

Computer & Information Science Department, Gannon University

Supervisor: **Dr. Kefei Wang**

I work closely with Dr. Kefei Wang on multiple research projects focused on **cloud systems**, **AI-driven security**, and **distributed computing**. My responsibilities include research design, system implementation, experimental evaluation, and academic writing. I also support undergraduate and graduate students in understanding advanced networking and security concepts.

Co-authored research projects with Dr. Kefei Wang include:

- *AI and Cloud Computing in Business Systems: A Hybrid Model for Enhancing Enterprise Resource Planning*
- *Cloud-Based CRM Systems Enhanced by AI and Graph Theory: A Hybrid Model for Optimizing Customer Engagement*
- *Auction-Based Dynamic Resource Allocation for Optimized Edge Computing in Distributed Networks*
- *Towards a Serverless Intelligent Firewall: Integrating Cross-Cloud Adaptation, AI-Driven Security, and Zero-Trust Architectures*

Publications (First Author, Peer-Reviewed)

Published

- **Towards a Serverless Intelligent Firewall: AI-Driven Security and Zero-Trust Architectures**
IEEE 12th International Conference on Cyber Security and Cloud Computing (CSCloud 2025)
I conceived the research idea, designed the architecture, collected and processed data, trained models, implemented the system, and conducted the evaluation. Achieved 98% accuracy with low false positives on the CIC-IDS-2017 dataset using LSTM-based temporal modeling.
- **Auction-Based Dynamic Resource Allocation for Optimized Edge Computing in Distributed Networks**
(IEEE CSITSS 2025)
Proposed and implemented an auction-theoretic model for efficient resource allocation in distributed edge environments.
- **AI and Cloud Computing in Business Systems: A Hybrid Model for Enhancing Enterprise Resource Planning**
(IEEE CSITSS 2025)
Designed and evaluated an AI-driven cloud ERP framework to improve enterprise decision-making.

Under Review

- *Towards a Serverless Intelligent Firewall: Integrating Cross-Cloud Adaptation, AI-Driven Security, and Zero-Trust Architectures*
(IEEE SmartCloud 2026)
- *Federated Threat Intelligence for Multi-Cloud Security: A Privacy-Preserving AI Approach*
(IEEE IC3ECSBHI 2026)

- Continuous Verification in Zero-Trust Security: A Model for Secure Automation (*IEEE IC3ECSBHI 2026*)

In Preparation

- *Autonomous Self-Learning Serverless Intelligent Firewall Using Open-Source Threat Intelligence and Federated Zero-Trust Architectures* (Target: Q1 Journal)
- *Building a Team of AI Models: A Literature Review on Distributed Agent Networks*

Industry Experience

Senior System Engineer

S. Alam Group, Bangladesh

Approx. 4 years

- Designed and maintained enterprise-scale server, network, and security infrastructure.
- Implemented firewall policies, mail servers, backup systems, and access control mechanisms.
- Supported infrastructure reliability, incident response, and operational security.

System Engineer

Link3 Technologies Ltd. (ISP)

Approx. 3+ years

- Worked on ISP-level network infrastructure, routing, and service availability.
- Assisted in network monitoring, performance tuning, and security hardening.

Total Industry Experience: ~7+ years in networking, systems, and infrastructure security.

Technical & Programming Skills

I use programming as a **research and systems-building tool**, not just for coursework.

- **Programming Languages:**
Java, JavaScript, Python, C++, PL/SQL; JSON for API communication and data interchange
- **Cloud & Systems:**
AWS (Lambda, API Gateway, WAF, EC2, S3, SageMaker), Linux, virtualization, serverless architectures
- **Security & Networking:**
Firewalls, IDS/IPS, Zero-Trust security, IAM, traffic analysis, logging pipelines
- **Machine Learning & Research Tools:**
Python-based ML frameworks, data preprocessing, model evaluation, Git, LaTeX, reproducible experimentation

Research Interests

- Serverless security and intelligent firewalls
- Cloud infrastructure protection and Zero-Trust enforcement
- AI-driven intrusion detection and threat intelligence
- Federated and privacy-preserving security analytics
- Secure distributed and multi-cloud systems

Research Goal

To pursue a **fully funded PhD (RA/TA)** in the United States, beginning **Fall 2026**, with a focus on **cloud-native security, serverless systems, and AI-driven network defense**, and to contribute impactful, deployable research to both academia and industry.

Languages:

English, Bangla (native)