



MD AL RAFI

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PROFILE

AI and cybersecurity researcher with a Master's in Information Technology and a strong publication record across IEEE, Springer, Elsevier, and international conferences. Specialized in machine learning, deep learning, and applied AI for fraud detection, financial forecasting, digital identity, healthcare analytics, and security systems. Recognized with multiple international awards—including the **IEEE RAICON Best Paper Award**—and holder of both a **patent** and a **UK design registration** for an AI-based biometric identification device. Serves as a **Senior Industry Advisor** at Sharda University and an **Editorial Board Member** and **Peer Reviewer** for multiple journals and conferences. Research contributions directly support U.S. national interest areas including cybersecurity, critical infrastructure safety, financial integrity, and AI-driven threat detection.

EDUCATION

07/2022 – 04/2025
Alexandria, United States
Master of Science and Information Technology
Washington University of Science and Technology

01/2014 – 03/2019
Dhaka, Bangladesh
Bachelor of Business Administration (BBA)
Independent University, Bangladesh

PROFESSIONAL EXPERIENCE

05/2025 – Present
USA
UPSKILL CONSULTANCY
IT CONSULTANT (OPT Employment)

- Conduct manual software testing to ensure reliability, quality, and defect-free product releases.
- Develop structured test cases, document results, and support continuous QA improvement.
- Collaborate with engineers in Agile environments to resolve defects and optimize workflows.

2019 – 2023
Dhaka, Bangladesh
Light Fair BD Ltd.
Head Of Marketing

- Led data-driven marketing strategies to expand regional and national market presence.
- Oversaw customer engagement programs and managed cross-functional sales teams.
- Conducted multiple business development visits to India for vendor negotiation and cross-border collaboration.

2019 – 2023
Ajman, UAE
Al Jabal Al Dhahabi Tailoring & EMB LLC (Family Owned)
Business Advisor

- Supported marketing strategy, customer engagement, and sales growth initiatives.
- Contributed to international business exposure and operational planning.

2019 – 2023
Dhaka, Bangladesh

Auto Surgeon BD (Family Owned) [↗](#)

Marketing and Promotional Advisor

- Advised on marketing campaigns to enhance customer outreach and service engagement.

★ RESEARCH EXPERIENCE

2023 – Present
Remote (Dhaka,
Bangladesh)

Research Assistant

Advanced Machine Intelligence Research (AMIR) Lab

- Contributed to peer-reviewed studies across finance, cybersecurity, healthcare, NLP, and computer vision.
- Developed models including **MiniBert24**, Hybrid **TCN-Transformer**, Residual Neural Networks, and self-supervised fraud detection pipelines.
- Co-authored award-winning and highly-cited publications in IEEE and other international venues.
- Conducted end-to-end research: dataset preparation, model design, training, evaluation, and manuscript writing.

2022 – Present

Independent Researcher & Author

- Published **10+ peer-reviewed papers** across IEEE, Springer, Elsevier, and Al-Kindi.
- Lead author of the **IEEE RAICON 2024 Best Paper Award**.
- Research contributions span algorithmic trading, sentiment analysis, plant disease detection, healthcare risk modeling, and fraud detection.
- Accrued **75+ citations** across Google Scholar, ORCID, and ResearchGate.

📖 RESEARCH & PUBLICATIONS

02/04/2025

A hybrid Temporal Convolutional Network and Transformer Model for Accurate and Scalable Sales Forecasting [↗](#)

IEEE

IEEE Open Journal of the Computer Society [↗](#)

04/04/2025

Deep learning for algorithmic trading: A systematic review of predictive models and optimization strategies [↗](#)

Array

Algorithmic trading, Financial market prediction, Stock price forecasting, Predictive modeling, Deep learning

02/04/2025

Joint Topic-Emotion Modeling in Financial Texts: A Novel Approach to Investor Sentiment and Market Trends [↗](#)

IEEE

IEEE Access

10/20/2025

Forecasting Customer Lifetime Value: A Data-Driven Approach to Optimizing Marketing Budget Allocation

Journal of Computer Science and Technology Studies

09/19/2025

NLP-driven customer segmentation: A comprehensive review of methods and applications in personalized marketing [↗](#)

Elsevier

Data Science and Management

11/01/2025

Federated Learning for Privacy-Preserving Healthcare Analytics: A Novel Framework for Fraud Detection in Healthcare

Springer

- 08/30/2024 **Optimizing customer segmentation in the banking sector: a comparative analysis of machine learning algorithms** [✍](#)
Al-Kindi
Journal of Computer Science and Technology Studies
- 11/29/2024 **C CFD-SSL: Optimizing Real-Time Credit Card Fraud Detection Using Self-Supervised Learning and Contrastive Representations** [✍](#)
IEEE
[2024 IEEE 3rd International Conference on Robotics, Automation, Artificial-Intelligence and Internet-of-Things \(RAAICON\)](#) [✍](#)
- 09/07/2024 **Comparative Analysis of AlexNet, GoogLeNet, VGG19, ResNet50, and ResNet101 for Improved Plant Disease Detection Through Convolutional Neural Networks** [✍](#)
IEEE
2024 2nd International Conference on Artificial Intelligence, Blockchain, and Internet of Things (AIBThings) [✍](#)
- 12/20/2024 **Hierarchical Attention Networks with BERT Embeddings for Sentiment Analysis** [✍](#)
IEEE
2024 27th International Conference on Computer and Information Technology (ICCIT)
- 12/20/2024 **Predicting Hospital Length of Stay Using Residual Neural Networks with Self-Attention: A Deep Learning Approach** [✍](#)
IEEE
2024 27th International Conference on Computer and Information Technology (ICCIT)
- 11/29/2024 **MiniBert24: A Lightweight Transformer-Based Model for Stock Market Movement Prediction** [✍](#)
IEEE
[2024 IEEE 3rd International Conference on Robotics, Automation, Artificial-Intelligence and Internet-of-Things \(RAAICON\)](#) [✍](#)
- 02/25/2024 **AI-Driven Fraud Detection Using Self-Supervised Deep Learning for Enhanced Customer Identity Modeling** [✍](#)
International Journal of Humanities and Information Technology
- 07/05/2023 **Machine Learning–Enhanced Predictive Marketing Analytics for Optimizing Customer Engagement and Sales Forecasting** [✍](#)
International Journal of Research and Applied Innovations (IJRAI)
- 09/07/2022 **Intelligent Customer Segmentation: A Data- Driven Framework for Targeted Advertising and Digital Marketing Analytics** [✍](#)
International Journal of Research Publications in Engineering, Technology and Management (IJRPETM)

★ **SPECIAL RECOGNITION: GOVERNMENT-FUNDED / MANDATED RESEARCH**

Joint Topic–Emotion Modeling in Financial Texts (IEEE Access, 2025) [✍](#)
International government-recognized AI research in financial forecasting.
The Research Council of Norway as a part of the project Fakespeak-the language of fake news (**Grant Number:** 302573)

ADVISORY & EXPERT ROLES

11/2025 – Present

Senior Industry Advisor

Department of Computer Science & Applications, Sharda University, Greater Noida, India

- Provide expert guidance on curriculum modernization and integration of emerging technologies (AI, ML, Cybersecurity, Cloud).
- Advise on academic-industry alignment, research initiatives, workshops, hackathons, and innovation programs.
- Contribute to strengthening the department's strategic objectives and technical ecosystem.

AWARDS & RECOGNITION

2025

IEEE RAICON 2024 Best Paper Award

IEEE International Conference on Optimizing Real-Time Credit Card Fraud Detection Using Self-Supervised Learning and Contrastive Representations

Honored with the Best Paper Award as the main author. Led the complete research process, from methodology design to model development and evaluation, introducing an AI-driven solution that significantly advanced real-time credit card fraud detection in financial systems.

2025

Certificate of Research Excellence 2025

Washington University of Science & Technology, USA

Awarded for Scopus-indexed publication: "**Hybrid Temporal Convolutional Network and Transformer Model for Accurate and Scalable Sales Forecasting.**"

2025

Certificate of Research Excellence 2025

Washington University of Science & Technology, USA

"CCFD-SSL: Optimizing Real-Time Credit Card Fraud Detection Using Self-Supervised Learning."

11/10/2025

Research Excellence Award 2025

AMIR Research Academy

Awarded for the IEEE-published paper "**A Hybrid Temporal Convolutional Network and Transformer Model for Accurate and Scalable Sales Forecasting.**" Recognized for advancing time-series forecasting through a hybrid TCN-Transformer architecture and demonstrating superior accuracy on the Favorita dataset.

2023

Certificate of Appreciation for International Business Collaboration

Ashta Lubricants, India

2022

Certificate of Innovation in International Business Development

Light Fair BD Ltd., Bangladesh

2021

Award of Contribution to National Economic Development

Light Fair BD Ltd., Bangladesh

2020

Certificate of Excellence in Strategic Marketing and National Business Growth

Light Fair BD Ltd., Bangladesh

✓ INTELLECTUAL PROPERTY

- 2025 **Design Registration – UK (No. 6458024)**
AI-based High-Speed Biometric Identification Device
Registered on July 15, 2025 | Granted on July 22, 2025 Registered with the UK Intellectual Property Office
- 2025 **Patent Application – India (No. 202511068331 A)**
AI-based High-Speed Biometric Identification Device
Filed: July 17, 2025 | Published: August 8, 2025 (Patent Office Journal No. 32/2025) Co-inventor with Dr. Ankita Sharma

📰 MEDIA COVERAGE

- 09/2025 **"Md. Al Rafi Awarded Best Paper at IEEE RAICON 2024"**
Featured internationally through a press release distributed across GlobeNewswire, The National Law Review, IT News Online, Cambodia Culture Channel, and 13+ international outlets (September 2024).
Coverage highlighted the significance of my research in **AI-based fraud detection and its broader global impact**

🎤 INVITED TALKS & CONFERENCE LEADERSHIP

- 09/2025 **Distinguished Speaker & Session Chair** [↗](#)
International Conference on Intelligent Systems for Complex, Chaotic, and Connected Environments (ISCCCE 2025)
Delivered an invited talk on Security and chaired technical sessions. Organized by Pathfinder Research & Training Foundation and ScholarHubWork, Greater Noida, India, September 27–28, 2025
- 06/2025 **Invited Speaker**
Sharda University, India
Delivered a lecture on "AI-Based Threat Detection and GRC" during a 40-hour Python for Cyber Security training program, June–July 2025

✍️ EDITORIAL AND PEER-REVIEW ROLES

- 06/2025 – Present **Editorial Board Member** [↗](#)
Journal of Computer Science and Technology Studies (Al-Kindi Publisher)
- 07/2025 – 08/2025 **Peer Reviewer – 2025 IEEE International Conference on Quantum Photonics, AI & Networking (QPAIN 2025)**
IEEE Photonics Society Bangladesh Chapter
 - Reviewed research submissions for an IEEE-organized international conference hosted by Bangladesh Army University of Science & Technology (BAUST).
 - Evaluated technical quality, methodology, and contribution to AI, photonics, and networking research.
- 2025 **Peer Reviewer**
PLOS One
Reviewed manuscript "An Efficient Deep Convolution Neural Network with Explainable AI for Early Detection of Grape Leaf Diseases" (2025).

06/2025 – Present

Peer Reviewer

Journal of Computer Science and Technology Studies (JCSTS) – Invited to review manuscripts on:

- "Security and Performance Analysis of a Hybrid Key Generation Method Combining DES and RSA with Random Rotations" (2025).
- "Examining the Impact of Demographics on Students' Perceptions of Mobile-Assisted Language Learning" (2025).
- "AI-Driven Incident Response for Digital Forensics and Incident Response: A Comprehensive Framework" (2025).

2025

Peer Reviewer

SCIENTIFIC JOURNAL OF FISHERIES AND MARINE JURNAL ILMIAH PERIKANAN DAN KELAUTAN

Reviewed manuscript "A Comprehensive Review of Deep Learning Approaches in Fish Classification Using Convolutional Neural Networks"

RESEARCH METRICS

75+ citations on Google Scholar and ResearchGate

5 Q1-journal papers under review & 2 conference papers under review

PROFESSIONAL MEMBERSHIP

Institute of Electrical and Electronics Engineers (IEEE)

Member Number: 101449417

Association for the Advancement of Artificial Intelligence(AAAI)

Member Number: 648154

TECHNICAL SKILLS

Programming

Python, R, SQL, Pandas, NumPy, Scikit-learn, TensorFlow

Project/Leadership

Agile/Scrum, stakeholder communication, research leadership

Machine Learning & AI

CNN, RNN, LSTM, Transformers, BERT, TCN, Self-Supervised Learning, NLP, CV, Time-Series Forecasting, Fraud Detection

Digital Marketing

SEO/SEM, analytics, conversion tracking, e-commerce strategy

Cybersecurity

Threat detection, network security, risk assessment, incident response

Cloud & Tools

IBM Watson Studio, Google Colab, GitHub, Azure AI, Tableau, Excel, AWS (basic)

CERTIFICATES

- Google Project Management [🔗](#)
- Google Digital Marketing & E-commerce [🔗](#)
- Microsoft Azure AI Fundamentals AI-900 Exam Prep [🔗](#)
- Google Cybersecurity [🔗](#)
- IBM AI Foundations for Everyone [🔗](#)
- Microsoft Business Analysis Fundamentals [🔗](#)
- IBM Machine Learning [🔗](#)
- Google Business Intelligence [🔗](#)
- Microsoft Data for Business Analysts Using Microsoft Excel [🔗](#)

★ VOLUNTEERING

2017
Sylhet, Bangladesh

Friends In Village Development Bangladesh (FIVDB) [↗](#)

community development and outreach

Supported community development programs focused on education, health, and livelihood improvement for underserved communities. Assisted with outreach, awareness campaigns, and field activities promoting equity, social inclusion, and environmental sustainability.

Bangladesh Red Crescent Society [↗](#)

Bangladesh Scouts and Rover Scouts [↗](#)

Hult Prize at Independent University, Bangladesh [↗](#)

🌐 LANGUAGE

English

Bangla

Hindi

Urdu

🔑 INTEREST

• Reading Novels

• Travelling

• Cricket