Md. Fahim Shahoriar Titu

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G Google Scholar: Md Fahim Shahoriar Titu

Research Objective

AI and cybersecurity researcher passionate about developing explainable, secure, and efficient intelligent systems. Seeking opportunities in **AI-driven security research, quantum-safe encryption, and explainable computer vision**. Motivated to contribute to interdisciplinary projects merging machine learning, post-quantum cryptography, and ethical AI.

Technical Skills

- **Programming:** Python, C, SQL, MATLAB

- **Frameworks:** PyTorch, TensorFlow, Scikit-learn, OpenCV

- **AI Domains:** Deep Learning, Vision Transformers, Explainable AI (XAI), Edge AI

- **Cybersecurity:** Post-Quantum Cryptography (Kyber), Network Security, Vulnerability Analysis

- **Tools:** IBM Quantum Experience, Git, Wireshark, Kali Linux, MySQL

Education

- **Bachelor of Science in Computer Science and Engineering**, North South University — Dec 2024
  CGPA: 2.98(80-82%)

- **Higher Secondary Certificate (Science)**, Cantonment Public School & College — 2018, GPA: 5.00

- **Secondary School Certificate (Science)**, Kushtia Zilla School — 2015, GPA: 5.00

Experience

Research Assistant   North South University, Dhaka, Bangladesh
December 2023 – February 2025

- Conducted AI-based research in **computer vision, explainable learning, and post-quantum security**.

- Designed and implemented models integrating **YOLO, ViT, DINOv2, SAM, and Grad-CAM** for explainable object detection.

- Published multiple papers in **IEEE, MDPI, Springer, and OSF** under supervision of **Dr. Riasat Khan**.

- Investigated post-quantum hybrid encryption using chaotic systems and Kyber algorithms for secure image communication.

Cybersecurity IT Audit Associate   ACNABIN, Chartered Accountants, Dhaka, Bangladesh
March 2025 – Present

- Performed IT and cybersecurity audits for banking and financial institutions, including NCC Bank PLC.

- Evaluated information systems, database integrity, and access control as part of cybersecurity assurance.

- Collaborated with cross-functional teams to enhance compliance and system reliability through vulnerability analysis.

Researcher & Programmer (Remote)   ZAR Consultancy Firm, UAE & UK
November 2025 – Present

- Conduct remote research and develop computational solutions supporting international consultancy projects.

- Build data processing pipelines, automation tools, and analytical modules to enhance project delivery.

- Collaborate virtually with teams across UAE and UK branches to design, test, and optimize technical workflows.

- Develop prototypes, algorithms, and software components aligned with client requirements and project objectives.

Publications & Research Contributions

- **Hybrid ViT-RetinaNet with Explainable Ensemble Learning for Fine-Grained Vehicle Damage Classification.** A. Saha, M.A. Pavel, M.F.S. Titu, A.Z. Apurba, R. Khan. *Vehicles*, 2025.

- **Fusion of Image Filtering and Knowledge-Distilled YOLO Models for Root Canal Failure Diagnosis.** A.Z. Apurba, M.F.S. Titu, M.A. Pavel, I.T. Naheen, R. Khan. *IEEE Access*, 2025.

- **Predicting Adolescent Concern Over Unhealthy Food Ads Using Explainable AI.** M.F.S. Titu, M.R. Rahman, A.Z. Apurba, M.A. Qayum, R. Khan. *IEEE Access*, 2025.

- **Enhancing Image Security with Hybrid Chaos-Kyber Encryption: A Post-Quantum Approach.** M.R.K. Khan, M.F.S. Titu, I. Ahammed, R. Khan. *IEEE Quantum Photonics & AI Conference*, 2025.

- **Real-Time Fire Detection: Integrating Lightweight Deep Learning Models on Drones with Edge Computing.** M.F.S. Titu, M.A. Pavel, G.K.O. Michael, H. Babar, U. Aman, R. Khan. *Drones*, 2024.

- **Deep-Learning-Based Real-Time Visual Pollution Detection in Urban and Textile Environments.** M.F.S. Titu, A.A. Chowdhury, S.M.R. Haque, R. Khan. *Sci*, 2024.

- **Experiments with Cooperative Robots that Detect Object's Shape, Color, and Size in Industrial Workplaces.** M.F.S. Titu, S.M.R. Haque, R. Islam, A. Hossain, M.A. Qayum, R. Khan. *International Journal of Intelligent Robotics and Applications*, 2024.

- **Kidney Cancerous Tumor Prediction Using CNN System Architecture.** M.F.S. Titu, M.H.M. Emon, S.A. Aumi, M.S. Bhuiyan, M.R. Rahman, M.F. Murshid. *Asian Journal of Medical Technology*, 2024.

- **Educational Tours and Practical Learning in Food Processing: A Student Perspective Case Study of Abdul Monem Beverage Ltd.** M.T. Aktar, A.Z. Apurba, M.F.S. Titu. *OSF Preprint*, 2024.

Certifications

- Introduction to Programming Using Python – BYLCx (2024)

- AI for Business Strategy & Planning – Udemy (2023)

- Git and GitHub – Simplilearn (2023)

Academic & Volunteer Activities

- **Senior Member, CEC Club (Promotion & Publication):** Organized robotics workshops and national competitions.

- **Teaching Assistant, Coding Bootcamp:** Mentored undergraduate students in Python and algorithmic problem-solving.

- **Member, Aloron Foundation:** Engaged in social work and blood donation drives.

References

Dr. Riasat Khan
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