MAHER AL ISLAM

Graduate Assistant, West Virginia University, WV, USA

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RESEARCH INTEREST

- Autonomous Vehicles
- Adversarial AI
- Cybersecurity
- Cyber-Physical System
- AI Safety & Ethics

TECHNICAL SKILLS

- **Artificial Intelligence:** Adversarial AI (FGSM, PGD, UAP, DeepFool); Robust Perception (YOLO, UNet, ViT); Context-aware Vision AI; Multimodal Sensor Fusion (Camera, LiDAR)
- **Autonomous Systems:** ROS, CARLA, Duckietown; Perception–Control Integration; Control (PID, RL, MPC); CPS Modeling (Smart Home & Smart Water Distribution)
- **Cybersecurity:** CPS/IoT Security; Game-Theoretic Defense; Intrusion Detection & Response; Adversarial BSM Analysis in AVs

EDUCATION

West Virginia University (Advisor: Dr. Amr El-Wakeel)   **August, 2024 – Ongoing**
Ph.D. in Computer Engineering   *WV, USA*

Virginia Commonwealth University (Advisor: Dr. Sherif Abdelwahed)   **January, 2021 – May, 2024**
M.S. in Electrical & Computer Engineering **GPA: 4.0/4.0**   *VA, USA*

University of Dhaka   **Jan, 2012 – October, 2016**
B.Sc. in Electrical & Electronic Engineering **GPA: 3.41/4.0**   *Dhaka, Bangladesh*

PEER-REVIEWED PUBLICATIONS   GOOGLE SCHOLAR LINK

[J1] Islam, Maher Al; Srivastava, Anurag K.; El-Wakeel, Amr S., **"AI in Autonomous Vehicles Under Siege: Vulnerabilities, Challenges, and Path Forward."** Manuscript received in IEEE Transactions on Intelligent Vehicles (In Review).

[C1] **M. Al Islam**, El-Wakeel, **"Towards Context-Aware Autonomous Driving in Degraded Urban Environments using LaneNet."** Submitted to IEEE International Conference on Robotics and Automation (ICRA), September 2025. (Submitted)

[C2] **M. Al Islam**, El-Wakeel, **"Integrating Perception and Control for Resilient Autonomous Driving under Vision Adversarial Attacks."** In preparation for IEEE Intelligent Vehicles Symposium, November 2025. (In Progress)

[C3] M. Zaman, **M. Al Islam**, N. Zohrabi and S. Abdelwahed, **"A Machine Learning-Based Temperature Control and Security Protection for Smart Buildings"**, 2024 IEEE International Conference on Smart Computing (SMARTCOMP), Osaka, Japan, 2024

[C4] M. Zaman, **M. A. Islam**, A. Tantawy and S. Abdelwahed, **"An Uncertainty Based Predictive Analysis of Smart Water Distribution System Using Bayesian LSTM Approach"**, 2022 6th International Conference on Universal Village (UV), Boston, MA, USA, 2022

[C5] **M. Al Islam**, C. J. Fung, A. Tantawy and S. Abdelwahed, **"A Game-Theoretic Model for DDoS Mitigation Strategies with Cloud Services"**, NOMS 2022-2022 IEEE/IFIP Network Operations and Management Symposium, Budapest, Hungary, 2022

[C6] Zohrabi, N., Martin, P.J., Kuzlu, M., Linkous, L., Eini, R., Morrissett, A., Zaman, M., Tantawy, A., Gueler, O., **Al Islam, M.** and Puryear, N., 2021, September. **Opencity: An open architecture testbed for smart cities**. 2021 IEEE International Smart Cities Conference (ISC2)

[C7] M. Zaman, **M. Al Islam**, A. Tantawy, C. J. Fung and S. Abdelwahed, **"Adaptive Control for Smart Water Distribution Systems"**, 2021 IEEE International Smart Cities Conference (ISC2), Manchester, UK, 2021

PROFESSIONAL COLLABORATION

Developing Autonomic Security Management System for Smart Cities   January, 2023 - Present
Virginia Commonwealth University ECE & CS   *Richmond, VA, USA*

Adversarial Attack Detection in Connected Autonomous Vehicles   January, 2022 - August, 2022
Virginia Commonwealth University & University of Virginia   *Richmond, VA, USA*

SOFTWARE & TOOLS

</> Programming: Python, C, MATLAB/Simulink, ROS, Bash/Linux
⚙ Frameworks: PyTorch, TensorFlow, OpenCV, Scikit-learn, Docker, Git
▌ IoT: NVIDIA Jetson (AGX), Raspberry Pi, ZED Stereo Camera; MQTT, TCP/UDP
🔒 CTF: Scapy, Wireshark, Aircrack-ng, John/Hashcat, Metasploit, Burp, Netcat, Volatility

AWARDS & CERTIFICATIONS

- **Diamond Badge** (97th Percentile) – NCL CTF 2025
- **3rd Place** – WVU AI Symposium 2025
- **Best Poster Award** – IEEE SmartComp (2024)

LEADERSHIP & SPECIAL SKILLS

- **President**, WVU Bengali Students' Association (BSA), Aug 2024 – Present
- **Founding President**, Bengali Cultural Association of Graduate Students (BCAGS), VCU, Spring 2023 – Fall 2023
- **Event Coordinator**, Engineering Graduate Student Association (EGSA), VCU, Fall 2021 – Spring 2022

REFERENCES

Available upon request.