Karim, Md Asif Bin

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DOMAINS OF INTEREST

• Internet of things (IoT) • Wireless sensor networking • Human Computer Interaction • VR,XR and Wearables

ACADEMIC BACKGROUND

■ **University of Arkansas at Little Rock**, Arkansas, United States [Fall 25 - Continuing]
Master of Science in Computer Science [GPA: 4.0/4.0 (1st Semester)]

■ **Rajshahi University of Engineering & Technology**, Rajshahi, Bangladesh [Jan 2015 - Sep 2019]
Bachelor of Science in Mechatronics Engineering [CGPA: 3.47/4.0]

RESEARCH EXPERIENCES

■ **Graduate Research Assistant** || **Emerging Analytics Center** [Fall 25 - Continuing]
University of Arkansas at Little Rock
• Perceptual and Cognitive Implications of Haptic Integration in Virtual Reality

■ **Research Assistant** || **Department of Mechatronics Engineering**
Rajshahi University of Engineering & Technology [Aug 2018 - Sep 2019]
• A WSN (wireless sensor network) for controlling long-distance actuator control based on Environmental conditions using the local IP management system. **Project Link & Funding Information**

PROFESSIONAL EXPERIENCES

Team Lead, Quality Management || **Walton Digi-Tech Industries Ltd** [Oct 2020 - Jul 2025]

- To ensure the project organization as per SLA and reduce process variations to improve the Sigma Score of the individual process through proper implementation of DMAIC methodology Production Support, fault analysis, providing solutions, and introducing new Processes.
- Responsible for troubleshooting issues and identifying root causes and implementing corrective actions to minimize downtime and prevent recurring problems.
- Responsible for making any Engineering Change to accelerate productivity and efficiency as well as reducing the non-conformity rate.
- Perform SPC & FMEA methods to identify the relative impact of different failures.

Production Engineer || **Samsung-Fair Electronics Limited** [Mar 2020 - Oct 2020]

- Emphasis on reducing process rejection by implementing various Lean tools, Kaizen.
- Emphasis on achieving maximum FTR, UPH, PPMH & Efficiency and minimum OQC lot reject

PUBLICATIONS

1. Mallik, Avijit, Shaik A. Hossain, **Asif Bin Karim**, and Shahajada Mahmudul Hasan. "Development of LOCAL-IP based environmental condition monitoring using a wireless sensor network." International Journal of Sensors Wireless Communications and Control 9, no. 4 (2019): 454-461.
2. Shahriar, S., I. Rahaman,**A. bin Karim**, M. M. Hasan, F. Chowdhury, and M. Sarker. "Bridging Internet of Things and Wireless Sensor Networks: Applications and Challenges." Indonesian Journal of Computing, Engineering and Design (IJoCED) 2, no. 1 (2020): 13-23.
3. **Karim, Asif Bin**, Sakib S. Avro, and Saquib Shahriar. "Promising aspects of geothermal energy resources in Bangladesh." International Journal of Renewable Energy Resources 8, no. 2 (2018): 22-28.

PRESENTATIONS

5. **Asif Bin Karim**, Mukidur Rahman, Saquib Shariar, Manirul Islam, "A WSN (wireless sensor network) approach for controlling the actuator wirelessly through database interaction," 2023 7th International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC), Dharan, Nepal, 2023[Not available online yet]
6. Mallik, Avijit, Md Arman Arefin,**Asif Bin Karim**, and Mohammad Rahat Rahman. "Current and future prospects of geothermal energy in Bangladesh." In 2019 International Conference on Computer, Communication, Chemical, Materials and Electronic Engineering (IC4ME2), pp. 1-3. IEEE, 2019.
7. Arefin, Md Arman, Avijit Mallik, Mhia Md Zaglul Shahadat, Abid Ahsan,**Asif Bin Karim**, Md Firoz Uddin, and Md Asfaquzzaman. "Integration of battery & ultracapacitor for low weight electric vehicle for Bangladesh." In 2018 International Conference on Circuits and Systems in Digital Enterprise Technology (ICCSDET), pp. 1-6. IEEE, 2018.

POSTER PRESENTATION

8. IoT based automatic water pump control by using ultrasonic sensor for home automation in Rajshahi city on "International Conference on Computer, Communication, Chemical, Materials and Electronic Engineering (IC4ME2)" July11-12,2019 ***[Best Poster Award!]***

PROJECTS

Passive infrared sensor-based room counter.|| Hardware – **Atmega32** || Language Platform- **Python**
Project Link: ***Audio-visual resources,Circuit Diagram & Source Code***

- It typically utilizes sensors to detect the presence or movement of individuals and employs a counting mechanism to keep track of the number of entries and exits.

Temperature controlled ventilation.|| Hardware – **Arduino & LM35** || Language Platform- **C++**
Project Link: ***Audio-visual resources,Circuit Diagram & Source Code***

- A control algorithm was built to read the temperature, compare it with the desired range, and adjust the control outputs accordingly in a loop to maintain the desired temperature.

Line follower robot.|| Hardware – **Arduino, Motor driver (L293D) & IR** || Language Platform- **C++**
Project Link: ***Audio-visual resources & Source Code***

- The microcontroller processes the senor readings to determine the position of the line. By analyzing the sensor data the robot can decide whether it is veering off the line or crossing the intersection.

Conditional Inventory Management.|| Hardware – **Raspberry Pi & Sensors (DHT11)**|| Language Platform- **C++**

- The temperature, humidity and dust particle count should be in tolerable range for an inventory, however in case of any disruption a High-efficiency particulate air (HEPA) filter starts automatically to guide the environmental parameters spike.

SKILLSETS

- **Programming Language:** C#, C++,HTML, Matlab, and Python.
- **Electronic Design Automation:** KiCad, Ladder Logic.
- **Mechanical Design Platform:** AutoCAD.
- **ERP Software:** SAP,ORACLE.
- **Professional Skills:** Standardization process, Quality Control Tools, Failure Mode and Effect Analysis(FMEA), SWOT Analysis, Warranty Analysis - Nevada format, 5S, 6 Sigma, Lean. ISO 9001:2015, ISO 14001:2015, ISO 45001:2018.
- **Misc:** Unity Game Engine,Academic research, teaching, training, consultation, LaTeX typesetting, and publishing.

AWARDS

1. GKS Scholarship 2024-2025 for graduate program in IT convergence Engineering.
2. Undergraduate scholarship by University Grants Commission of Bangladesh, Rajshahi University of Engineering & Technology, 2015 – 2019.
3. Technical Scholarship by the Government of Bangladesh at the secondary school level.
4. Best Poster Award for outstanding poster on "International Conference on Computer, Communication, Chemical, Materials and Electronic Engineering (IC^4ME^2)" by IEEE – Bangladesh Section.
5. 1^{st} Runner up in the event of Project Showcasing of "Robotronics" organized by Mechatronics Engineering(RUET).
6. Appraisal Letter for 'Achieving targeted OEE by eliminating bottlenecks and reducing process inefficiencies' by WALTON Digi-Tech Industries Limited.
7. Performance review Letter for 'Setting up OEM (Original Equipment Manufacturing) business by enhancing underutilized resource' by WALTON Digi-Tech Industries Limited.

REFERENCES

Graduate Mentor
Aryabrata Basu, Ph.D.
Assistant Professor
Department of Computer & Information Sciences
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Undergraduate Mentor
Md. Manirul Islam, M.Sc.
Graduate Researcher and Ph.D. candidate
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Tufts University, Boston, United States
Email: manirul AT mte DOT ruet DOT ac DOT bd