

## Md Ragib Shaharear

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### Areas of Expertise

- Device Automation
- Machine Learning
- Artificial Intelligence
- Control and Robotics
- Mechatronics
- Wireless Communication

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### Work Experience

● **Graduate Research Assistant (GRA):** Arizona State University (August 2021-Present)

**Achievement:** Conducting research on robotics, machine learning, device automation, mechanical and hardware design, and implementation.

● **Senior Manager:** Walton Digi-Tech Industries Limited (September 2018-June 2021)

**Achievement:** Research on Mobile phone PCBA schematic diagram, physical components, RF testing setup for SMT and assembly production, technical problem solve for assembly production, Mobile Phone Itemization, Bill of Materials(BOM) analysis, played a major role in the initialization of Mobile Manufacturing Plant, SMT plant, Charger, Battery, and Earphone assembly plant.

● **Assistant Network Engineer:** Summit Communications Limited (Feb 2018-Aug 2018)

**Achievement:** Configure IP address and technical problem solving of Juniper Router and Tejas MUX and configuring VLAN OSPF etc. Lead the team of operation and implementation, commissioning, and provisioning of transmission equipment.

● **Research Assistant (RA):** Shahjalal University of Science and Technology. (January 2016-December 2017)

**Achievement:** Designed hardware and implemented machine learning algorithms to make a low-cost ECG device and achieved 91.5% accuracy comparing with commercial machine.

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### Educational Background

● **Master of Science, Electrical Engineering** Arizona State University (ASU) (2021-)

**CGPA: (3.50/4.00)**

● **Bachelor of Science, Electrical Engineering** Shahjalal University of Science and Technology (2017)

**CGPA: (3.11/4.00)**

### Technical Skills

- Core programming languages: **C, Python, MATLAB. (8 years of experience)**
- Other software: **SolidWorks, Autodesk Inventor, PyCharm, Spyder, Latex, MS Office.**
- Hardware: **Arduino, Proteus, PSPICE, PLC, Function Generator, Oscilloscope, Logic Analyzer.**

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### Publications

● M Islam, Md Farhanul, **Md Ragib Shaharear**, and Md Saiful Islam . "[Design and Implementation of 12 Channel Electrocardiogram Device.](#)" In *2018 10th International Conference on Electrical and Computer Engineering (ICECE)*, pp. 441-444. IEEE, 2018.

● **Shaharear, Md Ragib**, HA Shakhawat Hossen Prayash, Md Farhanul Islam, and Tuhin Dey. "[Low-Cost Underwater Wireless Communication System Development Using Piezo-Ceramic Transducer.](#)" In *2019 1st International Conference on Advances in Science, Engineering and Robotics Technology (ICASERT)*, pp. 1-4. IEEE, 2019.

● M Prayash, HA Shakhawat Hossen, **Md Ragib Shaharear**, Md Farhanul Islam, Saiful Islam, Noushad Hossain, and Shamik Datta "[Designing and Optimization of An Autonomous Vacuum Floor Cleaning Robot.](#)" In *2019 IEEE International Conference on Robotics, Automation, Artificial-intelligence and Internet-of-Things (RAAICON)*, pp. 25-30. IEEE.

● M Sojib, N., Islam, S., Rupok, M.H., Hasan, S., Amin, M.R. and Iqbal, M.Z., 2017, December. [Design and development of the social humanoid robot named Ribo.](#) In *2017 IEEE Region 10 Humanitarian Technology Conference (R10-HTC)* (pp. 314-317). IEEE.

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### Achievements

- Selected to participate [European Rover Challenge\(ERC\)](#) 2016. 44 teams from different universities from all over the world are selected to participate in this prestigious contest. [\[Project presentation video\]](#)
- 2nd Runners up among 17 countries at International Robotics Challenge (IRC-2015) at IIT-Bombay, India

event name is [Techfest](#) which is Asian largest technical fest. [[News link](#)]

- Champion at Micromouse Robotic Competition, 2015 a National Robotic Competition organized by [Engineering Student Association of Bangladesh\(ESAB\)](#). [[Video Link](#)]
- Champion at [Mecceleration 2015](#), a National Robotic Competition organized by [Islamic University of Technology\(IUT\)](#). [[Robot performance video link](#)].
- Champion at [Esonance-2014](#), a National Robotic Competition organized by [Islamic University of Technology\(IUT\)](#). [[News link](#)] [[Robot performance video link](#)]
- 1st Runners up at a Debate Competition at an event day named Begum Rokeya Day, Rangpur. Bangladesh.

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### Relevant Coursework

- Digital Logic Design
- Electronics Circuit I & II
- Power Electronics
- Machine Learning
- Modeling and Control of Robot
- Artificial Neural Computation
- Introduction to Deep Neural Network
- Game-Theory: Models, Algorithms & Applications

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### Selected Project Experience

- *Model and Control of 5 DOF Robotics Arm & Implemented for Aircraft Marshalling* – Designed a 5 DOF robotics arm using Matlab & Simulink implemented it for Aircraft Marshalling. [[Robot Video](#)]
- *Ribo the Humanoid Robot*: Ribo - A humanoid robot build in [RoboSUST](#) lab which has the ability to communicate in Bangla with the people speaking in Bengali language. It has been added facial expression. [[Ribo Social Humanoid Robot Performance](#)]
- Implementation of submarine for under water navigation and communication. This was my undergrad university funded project.
- A radio station with a playlist of songs that is continuously running at [SUST](#). Used python coding and Raspberry Pi as a processor.
- An analog LED wall clock to show the daily time and date. I used microcontroller programming and many transistors to complete this project.

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### Extra-Curricular Activities

- IEEE and Robotics club member at ASU. Arranged seminars and technical events at ASU.
- Became member of Changemaker at ASU and working to affect local and global change.
- President at [RoboSUST](#) (An organization that run different contest and technical project) from 2015-2016. Arranged an Intra-SUST Robotic contest and different technical workshop for students of [SUST](#)
- Study circle coordinator, at SUST Science Arena (A science-based organization). Given frequent Science based speech at different schools and colleges to make Science popular among students.
- Teach different poor students for free to clear different concept of physics and math and help them to prepare for higher study