

# Suraia Afroz Maria

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## Career Objectives

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Computer Science graduate with a specialization in data science and a strong research interest in Data Mining, AI, and computer vision. Hands-on experience in image processing, robotics, and machine learning, contributing to competitive missions like URC and ARC. Eager to contribute to cutting-edge research in data-driven science and interdisciplinary applications, particularly in projects at the intersection of AI, education, social media, and sustainability.

## Education/Academic Background

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### **BSc in Computer Science and Engineering**

January 2020 – October 2024

United International University, Dhaka, Bangladesh

Result: 3.6/4.0

## Research Experiences

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### **Undergraduate Thesis: Development of an Underwater Vehicle for Survey, Search, and Rescue, United International University**

November 2023 – February 2025

- Designed and tested a Remotely Operated Underwater Vehicle (ROUV) with six degrees of freedom.
- Enhanced maneuverability through optimized 3D design.
- Trained a deep learning model to denoise the underwater images.
- Funded by the Center for Artificial Intelligence and Robotics (CAIR).

### **Design and Implementation of Life Detection Framework for Mars Rover.**

July 2022 – October 2024

- Developed biomolecule-based life detection systems and conducted in-situ chemical analysis.
- Led the installation of a rover laboratory and stratigraphy analysis processes.
- Supervised and mentored junior team members, ensuring project continuity.
- Contributed to a 79% score in the University Rover Challenge Science Mission.
- Authoring technical documentation for research and competition purposes.

## Technical Skills

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- Programming Languages: Python, C/C++.
- Frameworks: TensorFlow, PyTorch, Pandas, NumPy, and Scikit-learn.
- Tools: Jupyter Notebook, Google Colab, Git, Jira, RoboFlow, Supervisely, Excel, and Spreadsheet.
- Specialization: Machine Learning, Image Segmentation, Data Structures, Data Mining.

## Awards/Honors

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**University Rover Challenge, 2024:** 5th Rank

**Anatolian Rover Challenge, 2023:** 2nd Runner Up

**University Rover Challenge, 2023:** 9th Rank

**CSE Project Show 2022:** 2nd Runner-Up (System Analysis and Design)

**BRAND MASTER 3.0 (A business-case solving competition), 2022:** 2nd Runner Up

## Publications

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Suraia Afroz Maria, et al. [Development of an Underwater Vehicle for Survey, Search, and Rescue](#). Published at the 2025 International Conference on Electrical, Computer, and Communication Engineering (ECCE). Chattogram, Bangladesh.

## References

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- Dr. Salekul Islam  
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- Dr. A.K.M. Muzahidul Islam  
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