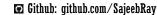# Sajeeb Kumar Ray

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LinkedIn: linkedin.com/in/sajeeb02 **ResearchGate:** researchgate.net/profile/Sajeeb-Kumar-Ray **Github:** github.com/SajeebRay
CodeForces: codechef.com/users/sajeeb02 **HackerRank:** hackerrank.com/sajeeb02 **CodeChef:** codechef.com/users/sajeeb02

Research Interests: Computer Vision, Image Processing, Natural Language Processing, Machine Learning, Deep Learning, Embedded Systems, Internet of Things.

i. Research

10. **SK Ray**, A Islam, MC Chanda, N Islam, MA Hossain and Mirza AFMRH; Deep Learning Based Lung Image Segmentation Using XR-U-Net (Accepted in ICCIT-2024).

9. N Islam, **SK Ray**, MA Hossain and Mirza AFMRH; Vehicle Classification and Detection Using YOLOv8: A Study on Highway Traffic Analysis (Accepted in ICRPSET-2024).

8. MA Hossain, **SK Ray**, N Islam and Mirza AFMRH; Generating Bangla Image Captions with Deep Learning Techniques (Accepted in STI-2024).

7. **SK Ray**, MA Hossain, N Islam and Mirza AFMRH; Enhanced Plant Health Monitoring with Dual Head CNN for Leaf Classification and Disease Identification (Under Second Revision in Elsevier Journal).

6. Alamin, **SK Ray**, MA Hossain, Mirza AFMRH, N Islam and MM Arman; Embedded Systems-Based AC Device Controller (Accepted in ICRPSET-2024)

5. **SK Ray**, T Debnath, N Islam and MA Hossain; Universal Security Circuit Integrated with Industrial Process Controller (Submitted in International Conference).

4. **SK Ray**, MA Hossain, N Islam, Alamin and Mirza AFMRH; Freshness Detection of Fruits and Vegetables Using Multi-Task CNN and ResNet-50 (Submitted in MECS-Press Journal).

3. N Islam, **SK Ray** and MA Hossain; Understanding the Traffic Sign through a Deep CNN Architecture for Enhanced Traffic Safety (Under Review in Elsevier Journal).

2. Alamin, T Debnath, **SK Ray**, MA Hossain and N Islam; IoT-Based Smart Product Price List Display Board (Submitted in International Conference).

1. MA Hossain, **SK Ray**, N Islam, Alamin and Mirza AFMRH; Enhanced human activity recognition through deep multi-layer perceptron on the UCI-HAR dataset. (Accepted: http://doi.org/10.11591/ijaas.v13.i2.pp429-438).

ii. Educational Qualifications

B.Sc. 2025	**Bachelor of Science (Engineering)** from Department of Information and Communication Engineering (ICE), Pabna University of Science and Technology, Bangladesh. CGPA: **3.88 out of 4.00** (six semester).
HSC 2019	**Higher Secondary School Certificate** from Collectorate School and College Rangpur (CSCR), Rangpur. Group: Science Board: Dinajpur GPA: **5.00 out of 5.00**
SSC 2017	**Secondary School Certificate** from Jaldhaka Government Model Pilot High School (JGMPHS), Jaldhaka. Group: Science Board: Dinajpur GPA: **5.00 out of 5.00**.

iii. Programming Skills

✦ **Competitive Programming**	➢ **Top rating 4★ (1816) on CodeChef.** **Specialist (1492) on CodeForces.** ➢ I **solved over 750 Programming Problems** in different online judge such as **CodeForces**, **HackerRank**, **beecrowd (URI)**.
✦ **Languages**	➢ **Python, C++, R, MATLAB, Java, C, CSS, HTML, JavaScript, PHP, SQL, MySQL, Arduino.**

iv. Embedded System & Robotics Projects

AI Baby Nursing Robot	An automated baby rocker capable of classifying baby cry to understand baby's needs. It can provide some necessary information such as Gas leakage, Smoke detection, and Temperature, Humidity and CO level of the home environment. (Partial Contribution)
Infant Monitoring System	A low-cost, mobile-based system was proposed to monitor infants in the workplace. The system uses IoT devices and real-time video transfer to monitor infants and detect safety hazards. Hardware: **ESP32, ESP32 CAM, GSM Module, Sensor: PIR, DHT11, MQ-2 etc.** Programming: **Arduino, JavaScript, HTML, CSS and XML**
RC Plane	Radio Controlled Airplane for Safety Surveillance and Transportation. My role in this project was to debug the mistakes and help teammates to work. Other members are **ALAMIN** and **Gulam Mustofa**. Hardware: **Transmitter, Receiver, Servo Motor, BLDC motor**, etc.

v. Volunteering

✦ **Class Representative** (Feb-2022 to Present), in Department of Information and Communication Engineering.

✦ **District PR Manager** (Mar-2022 to Feb-2023), Pabna in ICT Olympiad Bangladesh.

vi. Computer Skills

- ✦ Research: **CNN, RNN, LSTM, Pytorch, Tensorflow, Pandas, Numpy.**
- ✦ **PCB Design, Circuit Design, Clean Coding.**
- ✦ **MS Word, MS Excel, MS PowerPoint.**
- ✦ Operating System: **Windows, Linux.**
- ✦ Software: **Adobe Photoshop CC, Adobe Illustrator CC, Proteus 8 Professional, Xampp, VS Code, VR Box, Arduino, mikroC, PICkit, MS SQL Server, etc.**
- ✦ Typing Speed: **40 WPM (English).**

vii. Certifications

- ✦ Advanced Learning Algorithms (Coursera)
- ✦ Supervised Machine Learning: Regression and Classification (Coursera)
- ✦ Problem Solving (Intermediate) provided by HackerRank
- ✦ Problem Solving (Basic) provided by HackerRank

viii. Achievements

- ✦ **Champion**, Innovation Showcasing-2024
- ✦ **Runner-Up**, ICE Fiesta Programming Contest-2024
- ✦ **Champion**, ICE Fiesta Programming Contest-2023
- ✦ **University Merit Scholarship 2020, 2021, 2022**
- ✦ **Bangladesh 3rd Rank**(Global-350th) on Codeforces Round 857 (Div. 2)
- ✦ **Bangladesh 5th Rank**(Global-123th) on CodeChef Starters 79 (Div. 2)
- ✦ **Bangladesh 4th Rank**(Global-171th) on CodeChef Starters 49 (Div. 4)

ix. Languages Proficiency

- ✦ **Bangla** ✦ Native Language
- ✦ **English** ✦ Have a good command in speaking, listening, reading and writing. English is the instruction medium of B.Sc. (Engineering).

x. Personal information

Father's Name	: Ashwini Kumar Ray
Mother's name	: Sabitry Ray
Nationality	: Bangladeshi
Date of birth	: 24-08-2002
Permanent Address	: Vill: Shalongram, Post: Balagram, Jaldhaka, Nilphamari, Rangpur, Bangladesh.

xi. Personal Strength

- ✦ A dynamic personality and networking ability.
- ✦ Aesthetic knowledge and creativity.
- ✦ Strong desire for leading an honest life with dignity.

- ✦ Strong ability to maintain for confidential correspondence.
- ✦ Ability to team building and participatory approaches.
- ✦ Ability to work under pressure and target oriented.
- ✦ Ability to keep good relation with co-workers.

I declare that all the information provided here are authentic

xii. References

Prof. Md. Anwar Hossain	**Tarun Debnath**
Chairman	**Assistant Professor**
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