Contact

Bashundhara R/A, Dhaka
+8801812868624 (Mobile)
rahatalmamun20@gmail.com

www.linkedin.com/in/ramamun (LinkedIn)

Top Skills

Satellite Imagery
ESP32 Microcontrollers
MongoDB

Languages

Hindi (Limited Working)
Bangla (Native or Bilingual)
English (Native or Bilingual)

Certifications

Author Certificate

Honors-Awards

National Qualifier - Bangladesh Physics Olympiad 2018
5th Position - 38th National Science and Technology Fair
National High School Programming Contest (Chittagong Regional)
Global Qualifier - NASA Human Exploration Rover Challenge
3rd Position at Bangladesh Junior Science Olympiad

Publications

Machine Learning-Based Fault-Tolerant Inertial Navigation System for Micro Tunnel Boring Machines

Rahat Al Mamun

IoT | Robotics | Research | Product Development
Dhaka, Dhaka, Bangladesh

Summary

Starting from debate to building startups, I share my interest in a diverse range of topics. Trying to use my knowledge and skills in solving crucial human crises.

Experience

Bored Tunnelers
Robotics Software Engineer
August 2024 - Present (1 year 2 months)
Dhaka, Bangladesh

As a Robotics Software Engineer with Bored Tunnelers, the first South Asian team to qualify and win at Elon Musk's Not-A-Boring Competition, I am contributing to the future of 'Made in Bangladesh' tunnel boring technologies.

Key Contributions:

- Developed real-time navigation algorithms using sensor fusion and implemented Kalman Filters for autonomous tunnel boring machine localization.
- Co-authored and published a research paper at the 20th International Conference on Decision Aid Sciences and Applications (DASA), showcasing our approach to guidance systems.
- Designed impactful social media posters and promotional banners, elevating our public outreach and brand presence across platforms.

iFarmer
Research And Development Intern
July 2024 - May 2025 (11 months)
Dhaka, Bangladesh

iFarmer is a technology company that enables small-scale farmers and Agri Businesses to maximize their profit.

Key Responsibities:

• Designed and developed an IoT-based cattle health monitoring device using ESP32 and IMU sensors to forecast estrus periods, detect potential diseases, and identify abnormalities.
• Collected and labeled dataset of cattle movement, performed feature extraction, and implemented outlier detection using Pandas, PyOD, and Scikit-Learn.
• Implemented a machine learning model using FastAPI to ensure real-time responsiveness of ”Cowdy” and designed a MongoDB database for efficient data handling and storage.

Amateur Experimental Rocketry Dhaka (AERD)
8 months

Coordinator - Trajectory Prediction
April 2024 - October 2024 (7 months)

- Trajectory prediction algorithm developed using RocketPy

Team Member - Avionics & Guidance, Navigation, Control
March 2024 - October 2024 (8 months)

International Hope School Bangladesh (IHSB)
STEM Advisor
October 2021 - May 2022 (8 months)

FIRST
Awards Judge - 2021 First Global Challenge
August 2021 - October 2021 (3 months)
Dhaka, Bangladesh

Joined as Awards Judge at the world's Largest Robotics competition. More than 168 countries participated in this competition.

Key Responsibilities:
- Evaluating non-technical submissions from four national team

NASA - National Aeronautics and Space Administration
Team Leader - Team IHSB Rover
September 2020 - April 2021 (8 months)
Dhaka, Bangladesh

IHSB Rover Team represented Bangladesh in one of the world's most prestigious high school rover competitions known as the NASA Human Exploration Rover Challenge. As a team leader, my responsibility was to

make crucial decisions, managing meetings and schedules, cross-examining documentation and making rover efficiently.

The Seekers Lab
Founder and Academic Team Leader
February 2017 - November 2019 (2 years 10 months)
Cox's Bazar District, Chattogram, Bangladesh

The Seekers Lab is a social venture working towards making a technical knowledge-equipped community in the remotest corner of Bangladesh. Impacted more than 10,000 students around Cox's Bazar region by enabling them to write code, make IoT devices, and solve problems among their locality using IoT.

CERN
High School Intern - Compact Muon Solenoid
April 2018 - June 2018 (3 months)
Geneva, Switzerland

Education

Independent University, Bangladesh
Bachelor's degree, Electrical and Electronics Engineering · (September 2022 - 2025)

Milestone College
High School Diploma, Science · (August 2018 - December 2021)

Chakaria Korak Biddyapith
Secondary School Certificate , Science · (January 2008 - March 2019)