Tayeb Eyaser Niloy

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RESEARCH INTERESTS

Wall-bounded turbulence, Experimental fluid mechanics, Flow visualization (PIV/PTV), Unsteady aerodynamic flows.

EDUCATION

Khulna University of Engineering & Technology **Khulna-9203, Bangladesh**
Bachelor of Science (Engineering) in Mechatronics Engineering March 2024

- **CGPA:** 3.69/4.00
- **Class Rank:** 3rd

PUBLICATIONS

Manuscript (In Preparation)

Tonal Noise Mitigation in Multirotor UAVs Using Unevenly Spaced Counterweighted Propellers: A Combined Experimental and Numerical Study

RESEARCH EXPERIENCE

Undergraduate Thesis February 2023- February 2024

- **Development of Low-Tonal Noise Propeller for Autonomous Delivery Drone**

Developed a novel design with a counterweight and unevenly spaced-out blade assembly to reduce the tonal noise of a revolving propeller. verified the Ansys simulation results through frequency domain analysis of the recorded propeller sound. Implemented autonomous navigation via a commercial flight controller.

WORK EXPERIENCE

Khulna University of Engineering & Technology October 2024- Current
Lecturer (Part-Time)

- Conducted a theory course on “Human-Robot Interaction” and sessional courses on “Robotics” and “Sensors and Instrumentation”

HARDWARE PROJECTS

- **Prosthetic Hand** August 2023

Developed a prosthetic arm using MyoWare 2.0 muscle sensor and actuated via servo motors.

- **Quadcopter with Custom Arduino-Based Flight Controller** December 2022

Implemented a flight controller using Arduino Uno and MPU 6050 accelerometer and gyroscope, and built a quadcopter with the ability to hold altitude.

- **Wearable IoT device for heart attack detection using deep learning** October 2022

Developed a wearable device powered by NodeMCU. The system collected ECG data using an AD8232 sensor, and a self-trained deep-learning model was used for heart attack prediction.

- **Automated Conveyor Belt using Atmega32A Microcontroller** December 2021

Created a Conveyor belt capable of automated control using Atmega32A, a DC gear motor, and an IR sensor.

- **Microcontroller-Based Password-Protected Vault** March 2021

Developed a Vault system using Arduino, a solenoid valve, and a keypad.

- **Microcontroller-Based Home Automation System** June 2019

Developed a home automation system capable of switching on and off home appliances using sensor data from a temperature sensor and, humidity sensor.

TEST SCORES

- **IETLS -** Band 7.5 (L-9, R-7.5, W-7, S-7)

SKILLS

- **Simulation Software:** Ansys, Solidworks, Proteus
- **Programming Language:** C, Python, MATLAB, Arduino
- **Prototyping Skills:** 3D Printing, Laser Cutting, PCB Printing (Etching), 3D Rendering, PCB Designing
- **Soft Skills:** Critical Thinking, Attention to detail, Adaptability, Team Work
- **Productivity Tools:** MS Word, MS PowerPoint, MS Excel, Illustrator, Premiere Pro, Canva.

AWARD & SCHOLARSHIP

- KUET Technical Scholarship throughout 4 years at KUET.
- Secondary School Certificate Scholarship by the Directorate of Secondary & Higher Education, Bangladesh in 2017
- Junior School Certificate Scholarship by the Directorate of Secondary & Higher Education, Bangladesh in 2015
- Primary Education Completion Examination Scholarship by the Directorate of Primary Education, Bangladesh in 2011

ACHIEVEMENTS

- Finalist in Anatolian Rover Challenge 2022, organized by Space Exploration Society (UKET) in May 2022
- 9th Position of Team Durbar in the International Planetary Aerial Systems - IPAS Challenge, organized by the Mars Society South Asia, among 26 qualified teams worldwide in May 2021
- 10th Position of Team Durbar in the Indian Rover Design Challenge - IRDC, organized by Mars Society South Asia, among 28 qualified teams worldwide in July 2020
- Certified SolidWorks Professional (CSWP) and Associate (CSWA), Dassault Systèmes (2020)
- 1st Runners-up in the C programming contest arranged by IEM Robotics and Cad Club, KUET in 2019
- 1st Runners-up in BizBash Case Study competition arranged by KUET Career Club in 2019
- 4th and 7th position**s** in Divisional Science Olympiad**s**, organized by Bangladesh Academy of Sciences (2018 & 2017).
- 1st place in Science & ICT Fair 2018, among 17 institutions (Sristy Education Family).
- 1st Runners in the Poster Presentation competition in MIST Robolution, arranged by MIST Robotics Club in March 2017.

EXTRACURRICULAR ACTIVITIES

- **Junior Member to Co-Team Lead** (March 2020 - December 2023) at KUET Mars Rover Team- Team Durbar Mechanical Subteam
- **Assistant Treasurer to Vice-President** (January 2021 - March 2024) at Cyber Gaming Club of KUET-CYBORG
- **Founding President** (March 2017 - February 2019) at Sristy College of Tangail Science Club