Md. Abul Hasnat Alvi

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Academic Credentials

Bachelor of Science in Naval Architecture and Marine Engineering

Bangladesh University of Engineering and Technology (BUET)

CGPA: 3.68/4.00 (Merit position **10th** out of **63 students**)

Relevant Course Content

- Fluid Mechanics
- Finite Element Method (FEM)
- Computational Fluid Dynamics (CFD)
- Heat Transfer
- Marine Hydrodynamics
- Advanced Ship Structure
- Ship Vibration
- Resistance and Propulsion of Ships
- Power and Propulsion Systems

Research Experience

- Undergrad thesis research under the supervision of Professor Dr. Md. Mashud Karim from the Department of Naval Architecture and Marine Engineering at BUET.

Undergraduate Thesis

"Simulation of engine room ventilation for an inland ship of Bangladesh" using Star CCM+ software.

The primary objectives of this study are as follows:

- Develop a Computational Fluid Dynamics (CFD) model to predict the temperature distribution within an engine room.
- Identify ventilation arrangements that ensure efficient cooling while preventing localized temperature rises across the entire space.
- Determine the optimal positioning of air inlets and outlets to ensure uniform airflow throughout the engine room, preventing air stagnation in any specific area.
- Verify that the proposed model and analysis comply with ISO, IMO, and SOLAS regulations.

Undergraduate Project

1. "Design of a 36000 CBM Ocean Going LPG Carrier" under the supervision of Professor Dr. Goutam Kumar Saha from the Department of Naval Architecture and Marine Engineering at BUET.

The primary objectives of this study are as follows:

- Design a seagoing LPG carrier with a capacity of 36,000 cubic meters.
- Ensure compatibility with port limitations, particularly Matarbari Port.
- Satisfy owner's requirements including route (Matarbari to Qatar), speed, and capacity.
- Comply with classification rules (ABS) and standard naval architectural practices.

- Develop complete design documentation, including:
  - Principal particulars
  - Lines plan and general arrangement
  - Hydrostatics, stability, and trim
  - Structural scantlings and drawings
  - Resistance, propulsion, and steering systems
  - Engine foundation and shafting design

2. Make an industrial project on Safety equipment in CDDL.

Professional Experience

Intern, Naval Architect at Chittagong dry Dock Ltd (CDDL), Bangladesh Navy, Chittagong, Bangladesh.

Technical Skills

- Simulation (FEM): ABAQUS.
- Simulation (CFD): Star CCM+,COMSOL.
- Programming languages: MATLAB, C++, Python, Fortran.
- CAD & 3D Modelling: AutoCAD, Solid-works.
- Ship design related software: MAXSURF, Rhinoceros.

Academic Honors and Awards

- University Merit Listed.
- Got position 4 out of 55 student (level 4 term 1).
- Received a champion Trophy and Medal as team captain in Titumir Hall Cricket Tournament organized by Titumir Hall, BUET.
- Received a Medal for organizing Intra-department Cricket and Football.

Extracurricular Activities

- Completed Solid-works course and got certificate by Auto-mobile club, Bangladesh University of Engineering and Technology.
- Completed Basic machine learning Course by Robotics club, Bangladesh University of Engineering and Technology.
- Former participant of Bangladesh Chemistry Olympiad and Bangladesh Physics Olympiad and achieved the certificate of participation.
- Former member of BUET Automobile Club and BUET Robotics Club.

References

1. Dr. Md. Mashud Karim

Professor, Department of Naval Architecture and Marine Engineering

Bangladesh University of Engineering and Technology

Email: mmkarim@name.buet.ac.bd

Website: https://mmkarim.buet.ac.bd

2. Dr. Md. Shahjada Tarafder

Professor, Department of Naval Architecture and Marine Engineering

Bangladesh University of Engineering and Technology

Email: mshahjadatarafder@name.buet.ac.bd

3. Dr. Goutam Kumar Saha

Professor, Department of Naval Architecture and Marine Engineering

Bangladesh University of Engineering and Technology

Email: goutamkumar@name.buet.ac.bd