Md. Shahed Hossain Sohan

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EDUCATION

Bachelor of Science in Mechanical Engineering
Bangladesh University of Engineering and Technology *March 2018 - May 2023*
Dhaka-1000, Bangladesh
CGPA: 3.81/4.00
Thesis: *Analysis of Mechanical Performance of Crumpled Graphene: A Molecular Dynamics Approach. (Details)*

Relevant Courses: *Heat Transfer, Fluid Mechanics, Refrigeration and HVAC System, IC engine, Control Engineering, Applied Engineering Mathematics, Nuclear Engineering, Automobile Engineering, Production Process, Machine Design, Electro-mechanical System Design.*

RESEARCH INTERESTS

• Molecular Dynamics • Heat Transfer • Control System • Renewable Energy • Energy Storage
• Aerodynamics • Fluid Mechanics • CFD • Refrigeration & HVAC • Manufacturing

RESEARCH EXPERIENCES

- Working on analysis of mechanical performance of Crumpled Graphene with different grades of porosity and crumpleness under the supervision of Dr. Rahman.
- Working on CFD study of MHD mixed convection in a quadrantal enclosure with heat conducting rotating cylinder under the supervision of Dr. Saha.
- Worked on assessment of electronic cooling system in a C-shaped channel using temperature dependant P, PI, PID controller under the supervision of Dr. Saha.

PUBLICATIONS

PROFESSIONAL EXPERIENCE

- **North-West Power Grid Company Limited**
  Industrial trainee *Oct 2022 - Nov 2022*
  Khulna 225 MW Combined Cycle Powerplant.
  - Got overall idea of functioning of a combined cycle powerplant.
  - Inspected major systems of the powerplant i.e., gas turbine, steam turbine, lube oil system, fuel system, water treatment plant, control system, safety system.

TEST SCORE

- **TOEFL**
- **GRE**

PROJECTS

- **Accident Reduction System Design**
  A gyroscope based drowsiness system was designed and modeled to alert and reduce vehicle speed to reduce collision.
  Role: Design and Analysis *DOI: 10.5281/zenodo.8265893*
- **Thermo-Fluid Equipment Design (Shell and Tube HX with Helical Baffles)**
  Using HTRI, the design parameters were optimized for the best configuration. 3EPlus, an energy management software, was utilized for calculating optimal insulation requirements to enhance energy efficiency. A three-dimensional numerical simulation was conducted by FEM using ANSYS to analyze for a shell and tube HX.

Role: Design and Simulation *DOI: 10.5281/zenodo.826593*

- **Electric Temperature Control System**
  A temperature control system was analyzed for a C-shaped channel using P, PI, and PID controller. To find the best combination of controllers, finite element analysis was performed in COMSOL Multiphysics.

SKILLS

- **CAD Software:** SolidWorks, AutoCAD
- **Simulation Software:** LAMMPS, COMSOL Multiphysics, ANSYS Workbench, MATLAB
- **Programming Languages:** Python, C, Arduino
- **Microsoft Office:** Microsoft Office Suite
- **Other Software:** Tecplot 360, HTRI, 3EPlus, Avogadro, OVITO
- **Soft Skills:** Project and Time Management, Teaching, Leadership, Writing

HONORS AND AWARDS

- University Merit Scholarship, BUET (**three times** - January 2019, January 2020, January 2022)
  - *Awarded to the students with academic excellence (GPA:-3.90+) in a semester*
- Dean's List Award, BUET (**three times** - First, Second and Fourth year)
  - *Offered to the students obtaining an average GPA of 3.75+ in two consecutive semester of an academic year*
- University Stipend (**three times** – 2018, 2019, 2021)
- Board Scholarships: HSC (2017), SSC (2015), JSC (2012)
- Perfect Attendance Certificate, Notre Dame College, 2017.
  - *Students with 100% attendance receive this certification as a reward for their consistent commitment*

EXTRA-CURRICULAR ACTIVITIES

- Affiliate Member of BUET Robotics Club. *May 2018 – May 2023*
- Affiliate Member of BUET Automobile Club. *May 2018 – May 2023*
- Member of BADHON - BUET (A Blood Donation Group). *May 2018 – May 2023*
  - *Donated blood for 6 times.*

SELECTIVE CERTIFICATIONS

- Introduction to MATLAB, Coursera *(Cr. ID: 6CQJHLXPAH44)*
- Excel for Begineers, Coursera *(Cr. ID: E3ASUG9VNET8)*
- Getting started with Python, Coursera *(Cr. ID: 3CYULTWLKJ6U)*

LINGUISTIC PROFICIENCY

- Bengali (Native)
- English (Full Working Proficiency)

References

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Dr. Md. Ehsan, Professor
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