**Md. Minal Nahin**

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**RESEARCH INTERESTS**

 *Aerosol Science and Molecular Dynamics*

 *Computer Aided design, control and simulation, Applied Engineering Mathematics*

 *Renewable energy and Thermal Engineering*
 *Mechatronics, Robotics and Control*
 *Aerodynamics, Fluidics & Computational Fluid dynamics (CFD)*

**EDUCATION**

 **Masters of Science in Mechanical Engineering,**

Purdue School of Engineering and technology, IUPUI

*Expected Graduation: May 2017*
 **Bachelor of Science in Mechanical Engineering**
Bangladesh University of Engineering and Technology (BUET), February 2013.
*CGPA: 3.80/4.00, Merit Position: 04/143 (top 3%)*

**PROFESSIONAL EXPERIENCE**

 Lecturer, Dept. of MPE, Ahsanullah University of Science and Technology, Bangladesh (April 2013-Asugut 2016)
Courses instructed:
Theory: Applied Engineering Mathematics, Fluid Mechanics, Control Engineering, Instrumentation and Measurement.
Sessional: Mechanical engineering drawing (Manual and CAD), Basic thermodynamics, Control engineering, Heat and mass transfer.

**INDUSTRY AND RESEARCH EXPERIANCES**

 **IUPUI Mechanical Engineering Department**

*Research Assistant in Molecular Kinetic Lab for designing an inverted Drift Tube (ongoing)*
 **Undergraduate Project:** *Automatic Paper sorting and stapling machine.*

*This machine was able to do three works: paper sorting from different places, place them on a bed one
after another and then stapling them as a set. Microcontroller and other electrical chips were used and
programmed for that.*
 **Industrial Attach**: *Aftab Automobiles Limited (Bus body fabrication unit), Dhaka (March 2012 - April, 2012)
At the time of training, my project was to design the full bus body interior shape. All parts were
successfully drawn and assembled by Solid Works.*
 **Undergraduate Thesis***: Feasibility Study of Designing a Green Room in Bangladesh by Energy Usage Pattern Analysis Using Simulation Based Approach.* *This thesis had three sections and three simulations.*

*A room was drawn by google sketch up and using energy plus electrical energy required was calculated. Using MATLAB Simulink solar water heater simulation was done and a software was made using LabView to calculate wind energy at different heights. In all cases, the environmental conditions of Bangladesh were used.*
 **Training:** *Basic Microcontroller organized by Institute of Engineers, Bangladesh (IEB).*
 **Self-learning:** *I designed fluid power system circuits using Automation Studio at undergraduate level.*
 **Lab setup:** *At my working place, I was involved in designing and implementing some Lab applications for Heat and mass Transfer Lab.*

**ACADEMIC HONORS**

 *Government Scholarship in junior secondary school examination (District First)*
 *Government Scholarship in secondary school certificate examination*
 *Government Scholarship in higher secondary school certificate examination* *Dean’s List award in University for result*
 *University Merit Scholarships*

**PUBLICATIONS**

 M.M. Nahin, M. Hasan and M. Mamun, “*A Simulation Based Approach to the Evaluation of Applicability of Solar Water Heating in Extracting Solar Energy in Bangladesh*” International Conference on Physics for Energy and Environment 2014, Bangladesh Physical Society.
 Mahmud Hasan , Md Minal Nahin ,Mohammad Mamun, “*A Simulation Based Approach to Ascertaining the Viability of Solar Cell and Wind Power Establishments in Designing a Green Room in Bangladesh*”,10th International Conference on Mechanical Engineering, ICME 2013, Procedia Engineering 90, 680-685.
 Toukir Islam, Minal Nahin and Mohammad Abu Abrar, “*Numerical Study of Laminar Boundary Layer Using Navier Stokes Equation and Finite Volume Method*”, International Conference on Mechanical, Industrial and Materials Engineering 2013, ICMIME2013
 Debasish Adhikary , Muhammad Ziaur Rahman , Md. Minal Nahin , Muhammad Soyeb Bin Abdullah,
“*Design and Implementation of Regenerative breaking system*”, Conference on Smart Materials, Adaptive Structures and Intelligent Systems (SMASIS), ASME 2013.

**TECHNICAL SKILLS**

 **Programming language:** *C , MPLAB*
 **Scientific Computational Tool:** *MATLAB*
 **Simulation Tool:** *Energy Plus with Google sketch up , Simulink (MATLAB) , Automation Studio , ANSYS
(Mechanical APDL & Fluent) , COMSOL , PvSyst , RET screen , Proteus, SIMION 8.1 (for ion optics simulation)*
 **Computer Aided Design:** *SolidWorks, Auto CAD, Catia*
 **Operating System:** *Windows*