

Md. Emazuddin Alif

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EDUCATION

Vanderbilt University, Nashville, TN

May 2021

Bachelor of Engineering • **Major:** Mechanical Engineering • **GPA:** 3.582

Relevant Coursework: Thermodynamics, Heat Transfer, Fluid Mechanics, Machine Analysis, Engineering Acoustics, Mechatronics, Modeling and Simulation of Dynamic Systems, Robotics, Linear Control Theory

WORK EXPERIENCE

TechHub, Vanderbilt University IT, Nashville, TN

Aug 2018 - Apr 2020

Information Technology Consultant

- Resolved issues regarding vuNet, the central identity system of Vanderbilt University
- Assisted walk-in customers in troubleshooting, setting up, and updating their personal devices
- Advised with issues regarding electronic identity and generic incidents through calls and online live chat

Institute for Software Integrated Systems, Vanderbilt University, Nashville, TN

Jun 2019 - Aug 2019

Undergraduate Research Intern

- Developed the Python code for the line-following algorithm of Unmanned Underwater Vehicles (UUV)
 - Created a ROS node to provide the UUV with autonomous decision-making capabilities
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PROJECTS

Autonomous Landing System and Reorientation, Vanderbilt Aerospace Design Laboratory

Aug 2020 – Present

- Working as Vehicle Engineer on designing and prototyping an autonomous landing and reorientation system for the NASA Student Launch Initiative as a part of Vanderbilt Aerospace Design Laboratory (7x National Champions in the last 8 years)

Three-degree-of-freedom Robotic Arm

Jun 2020 – Jul 2020

- Designed a robotic arm on SolidWorks and made a prototype with cardboard
- Programmed an Arduino Uno board to control the movement of the arm by means of three servo motors, a joystick and a potentiometer

Designing a test bed for autonomous surgical needle, MedLab, Vanderbilt University

Jan 2020 – Mar 2020

- Created a SolidWorks design for a base with three degree-of-freedom for the gelatin test bed of the needle

Measuring the motion of a Lime Scooter using LabVIEW, Vanderbilt University

Jan 2019 – Apr 2019

- Created an experimental setup with a Lime Scooter, an accelerometer and a DAQ board
- Recorded and analyzed the data from the runs in different terrain to gauge the efficiency and viability of this application of accelerometer

Designing a Manually Operated Paper Punch, Vanderbilt University

Aug 2018 - Dec 2018

- Analyzed the designs of various models of paper punch and benchmarked them based on various factors
 - Modeled a proposed design in Creo Parametric 4.0 and ran kinematic analysis to judge its efficiency
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SKILLS

- SolidWorks, Creo 4.0, Onshape
 - MATLAB and Simulink, LabVIEW
 - Arduino
 - 3D Printing
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LEADERSHIP & COLLEGIATE ACTIVITIES

Vanderbilt Bongo Shongho, Vice President (Mar 2019 – Apr 2020), Secretary (Mar 2018-Feb 2019)

Vanderbilt Muslim Student Association, Vice President (Apr 2020-Present), Da'wah Chair (Dec 2018 – Mar 2020)

Vanderbilt United Mission for Relief and Development, Senior Advisor (Mar 2019 – Present)