

# Mohsin Haider

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## OVERVIEW

Creative and collaborative undergraduate with practical experience in design, prototyping, and mechanical development. Demonstrated ability in communicating complex topics in a clear and effective way to a broad audience.

- Design Tools: Fusion 360, Illustrator, Inkscape
- Prototyping: Laser Cutting, Waterjet, 3D Printing, CNC Milling, CAM
- Programming: Python, Arduino, GitHub, Heroku, some experience with MATLAB
- Soft Skills: Communication, Problem Solving, Flexibility

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## EDUCATION

**Bachelor of Science in Engineering**

Expected May 2022

**Mechanical Engineering Intent**

Pratt School of Engineering, Duke University, Durham, NC

GPA: 3.8

**High School Diploma**

May 2018

Raleigh Charter High School, Raleigh, NC

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## PROFESSIONAL EXPERIENCE

**DesignHub, Duke University**

Durham, NC

**Design Engineer**

Aug 2019 — Present

- Design products, mechanisms, and prototypes for DesignHub clients as a contract engineer
- Develop important client ideas into functional products through structured project management
- Currently working on a smart toilet seat (see below)

**Innovation Co-Lab Studio, Duke University**

Durham, NC

**Co-Lab Staff**

Aug 2018 — Aug 2019

- Troubleshooted, repaired, and maintained fleet of 75 3D printers in Duke University's Co-Lab Studio (Makerspace)
- Instructed students on how to operate 3D printers, water jet cutters, laser cutters, and CNC machines
- Advised wide variety of clients on best methods to utilize Co-Lab machines for their projects

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## PROJECTS (see more on website above)

**The David Lab at Duke University**

Durham, NC

**Project: Smart Toilet Seat**

Jun 2019 — Present

- Leading mechanical development and testing for an smart toilet seat device to be used in hospitals
- Designing and creating sensor mechanisms, seat prototypes, automated testing rigs and validation devices
- Gaining experience in biomedical device design and regulations, patents, and mechanical design

**Museum of Life and Science, Duke University (Freshman Engineering Project)**

Durham, NC

**Project: Automatic Skunk Feeder**

Aug 2018 — Dec 2018

- Designed and constructed, with three other students, a feeder for small mammals in captive enclosures that dispenses food at random times in variable locations
- Initially created device for skunks but is being applied for use with chinchillas, possums, and lemurs at the museum

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## VOLUNTEER AND LEADERSHIP EXPERIENCE

**Programming Club, Raleigh Charter High School**

Raleigh, NC

**President and Founder**

Aug 2017 — May 2018

- Developed and taught lessons on J, Python, and HTML to club members with varying experience levels
- Managed a scheduling program for an annual event and facilitated a school-wide transition from J to Python

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## RELEVANT COURSEWORK

- Calculus I, II, and III
- Fundamental Engineering Design
- Mechanics of Solids
- Linear Algebra, Differential Equations
- Introductory Programming
- Physics: Mechanics, Electricity, Magnetism