

# Keertik Bacon

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## Objective

Driven and self-motivated mechanical engineering student with experience in product development and manufacturing, with strong interpersonal, communication, and leadership skills. Versatile and adept at collaborating with multi-disciplinary teams, working in high-paced environments, and problem solving. Looking for an engineering internship starting Summer 2023.

## Education

**Georgia Institute of Technology | Atlanta, GA**

Bachelor of Science in Mechanical Engineering, GPA 3.85

Minor in Aerospace Engineering

*August 2020 – Present*

Expected Graduation, May 2024

## Skills

**Computer-Aided Design:** SolidWorks, Autodesk Inventor, Inventor CAM, Inventor FEA, Autodesk CFD

**Manufacturing:** 3D printer, laser cutter, CNC mill, metal and wood shop tools

**Electronics:** Arduino UNO, NI Multisim, digital circuit design, breadboarding

**Programming:** Java, Python, C++, MATLAB, HTML, CSS

**Certifications:** Certified SolidWorks Professional – Mechanical Design (CSWP)

**Other Software:** Cura, 3DPrinterOS, GrabCAD, Microsoft Office, Inkscape, GitHub, Blender

**Communication:** Presentations (large and small audiences), written communications, engineering documentation

**Languages:** English (native), French (conversational), Tamil (conversational)

## Experience

**Johns Hopkins University Applied Physics Laboratory | Laurel, MD**

*June – August 2019*

**ASPIRE Intern**

- Developed 4-stage pipeline that recorded video from a webcam and generated a sentence description of the video, adding functionality to a computer vision system that previously could only identify objects but not describe them
- Optimized the video captioning process, dropping the processing time for a 9 second video clip from 19 seconds to 10 seconds, almost achieving real-time processing

## Relevant Coursework

**Computer-Integrated Manufacturing:** CNC manufacturing; manufacturing robot programming

**Engineering Graphics:** Concept sketches; computer-aided design; engineering drawings

**Dynamics of Rigid Bodies:** Kinematics and kinetics of particles and rigid bodies in one, two, and three dimensions; Newton-Euler equations; work-energy and impulse-momentum principles

**Creative Decisions and Design:** Product development (research, design, testing); manufacturing; mechatronics and robotics design; design reviews; group project work

## Activities

**RoboJackets | Atlanta, GA**

*September 2020 – Present*

**Shop Manager (December 2021 – Present)**

- Embarked on machine shop modernization initiative by replacing old and dwindling tool supplies, and in the process of designing new shop layout and sheet stock storage, to improve space efficiency
- Manage \$1000 shop tooling budget and submit periodical bill requests for funding, to ensure that all five RoboJackets teams and 415 dues-paying members have access to the tools they need to work and meet competition deadlines

**RoboRacing Mechanical Engineer (September 2020 – Present)**

- Designed mounting hardware and waterproof casing for an autonomous go-kart braking system, helping the go-kart win 2<sup>nd</sup> place at the 2021 evGrand Prix Autonomous competition
- Led a team of two new members in redesigning the go-kart braking system for the 2022 competition, enabling more precise control over the brakes and reducing motor strain

**Mechanical Training Lead (May – December 2021)**

- Planned and directed a training program teaching design and manufacturing for 60 new members joining RoboJackets in Fall 2021 (including updating training material to be more intuitive and streamlined, recruiting and managing a team of trainers, and coordinating logistics), resulting in a 47% increase in training session attendance from Fall 2020