

# Keertik Bacon

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## Education

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

Bachelor of Science in Mechanical Engineering, GPA 3.89

Minor in Aerospace Engineering

*August 2020 – Present*

Expected Graduation, Dec. 2024

## Skills

**Computer-Aided Design (CAD):** CATIA, SolidWorks, Autodesk Inventor, PTC Creo, Fusion 360

**Computer-Aided Engineering (CAE):** Finite element analysis (FEA), computational fluid dynamics (CFD)

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

**Electronics:** Arduino UNO, programmable logic controllers (PLC)

**Programming:** MATLAB, Simulink, Java, Python

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

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

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

## Experience

**Honda Development and Manufacturing of America | Raymond, OH**

*August – December 2023*

**Chassis Development Co-Op, Auto Development Center**

- Reverse-engineered design of competitor wheel in CATIA, modified it to enable testing in a wind tunnel, and validated the design using FEA analysis, lowering test turnaround time and risk of vehicle damage
- Supported testing of proof-of-concept test wheel, performing design modifications to fix a design flaw and improve connection strength

**Honda Development and Manufacturing of America | Anna, OH**

*August – December 2022*

**Drivetrain Manufacturing Co-Op, Anna Engine Plant**

- Designed latch for rejected parts outflow bin to replace a design prone to misalignment, reducing troubleshooting time
- Implemented camera system to detect incorrect assembly of CVT pulleys, enabling earlier detection and faster recovery
- Developed electronic checklist to aid line operators in resetting assembly robots after errors, reducing the likelihood of mistakes that could lead to further errors or part damage

**Naval Nuclear Laboratory | West Mifflin, PA**

*June – August 2022*

**Hydraulic Engineering Intern, Bettis Atomic Power Laboratory**

- Designed hydraulic loop to verify calibration of water flow meters, reducing calibration time from 6 months to a few hours
- Oversaw construction of the hydraulic loop, finishing 3 weeks ahead of schedule and winning praise from management

## Relevant Coursework

**Creative Decisions and Design:** Product development (research, design, testing); manufacturing; robotics design

**Fluid Mechanics/Aerodynamics:** Hydraulics; lift and drag; supersonic airflow; nozzles/diffusers; wing design; potential flow

**Machine Design:** Component design (gears, fasteners, springs, shaft components); stress analysis; static and fatigue failure

## Extracurricular Activities

**Invention Studio at Georgia Tech | Atlanta, GA**

*March 2022 – Present*

**Prototyping Instructor**

- Assist and train Georgia Tech students in the safe use of various machine tools, including 3D printers, laser cutters, waterjet cutters, metal and wood shop tools, and crafts tools, in the nation's largest fully student-run makerspace
- Give tours of the space to visiting professors and industry sponsors, to increase visibility of the studio

**RoboJackets | Atlanta, GA**

*September 2020 – May 2023*

**RoboRacing Mechanical Engineer**

- 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