

# Kip Gaddis

[keg5276@rit.edu](mailto:keg5276@rit.edu) (802)-299-0177 [linkedin.com/in/kip-gaddis](https://www.linkedin.com/in/kip-gaddis)

[kipgaddis.com](http://kipgaddis.com)

Seeking co-op in the field of mechanical engineering. Available January through August 2025

## Education

**Rochester Institute of Technology**, Rochester, NY

Bachelor of Science, Mechanical Engineering Technology, Expected 2027

## Skills

SOLIDWORKS, Fusion 360, MATLAB, ANSYS Fluent and mechanical, Computational Fluid Dynamics (CFD), Rapid Prototyping, Carbon composite manufacturing, Milling and turning, Systems Engineering, Data analysis, Project Management, Manufacturing Processes, Technical Documentation

## Experience

### **Undergrad Research Assistant**

January 2024 - Current

In charge of manufacturing 6 6-axis robot arms

### **RIT Racing FSAE / Aerodynamics Design Engineer**

August 2022 - Current

Responsible for helping to design, test and build a full aerodynamics package for a winning formula FSAE car.

### **Great River Outfitters and Path of Life Sculpture Garden / Lead Driver and Maintenance Engineer**

May 2023 - August 2024

Responsible for maintenance and adaptation of machinery as well as driving boat trailers to the waterfront.

## Projects

### **Designed aerodynamic and structural components of a rear wing for a formula SAE car**

- Optimized spacing for the tri-element system through CFD simulation.
- Designed the endplates to optimize manufacturability, car serviceability, downforce, and vortex control.
- Designed and helped manufacture swan neck support system.

### **High vacuum and voltage for electron linear particle accelerator**

- Repaired and assembled high vacuum system for linac consisting of roughing pump and oil diffusion with cryo trap
- Currently working on hv design for alternate accelerating process
- Plan to switch to proton acceleration

### **CFD Validation Device Development**

- Managed the design and fabrication of a custom pitot tube array and wing element with integrated pressure taps

### **Designed and building a turbo jet engine**

- Designed and currently building a turbo jet engine out of an automotive turbocharger.

### **Worked with the Eaton Corporation to understand forced induction systems**

- Training with Matt Henry, lead engineer for the supercharger group of the Eaton Corporation, on what supercharging and compound charging is, where to use it and why
- Design review on one of their superchargers.

### **Designed a liquid rocket engine**

- Designed the beginnings of a kerosene - gox based liquid rocket engine with my high school math teacher.

### **Schlieren imaging**

- Simple schlieren imaging setup for use in testing of a multistage combustion light gas gun.

### **Hyper velocity combustion light gas gun**

- Currently in the design process for a small combustion light gas gun.

## Awards/Certifications

**SOLIDWORKS CAD Design Associate (CSWA)** - Earned for demonstrated competencies in mechanical design and expertise in SOLIDWORKS software.

**Bertha Perkins Frothingham Award for Excellence** - Demonstration for outstanding affinity for the written and printed word in 2018 presented by Friends of the Windsor Public Library.