

A Public Application Programming Interface (API) for Vehicle Aerodynamics and Technical Specifications

Abstract: When running simulations for various vehicles, there is no public dataset available with various specs needed such as C_d or even the mass, etc. of the vehicle. We propose launching a public website hosted by Auburn that will allow researchers and students to access specifications for a growing vehicle list programatically via Matlab, Python, or any programming language that offers methods for accessing a REST api.

The biggest issue currently is that there's no list available. Wikipedia has a few example cars, and other websites have some car models. Our team will need to collect and programmatically scrape and use search engines to find information. Next we will write a TypeScript based Node.js (or whichever language AU approves) application that uses a database of some sort to host this information. This will require a team of engineers with excellent software skills.

Our final report will showcase a website with instructions on how to use the API, as well as how to use the API for common languages such as Python or MATLAB to ingest aerodynamic coefficients, vehicle mass, acceleration, etc. programmatically.