As an intern at Volvo Truck North America, I was the first on the CFD team to evaluate, optimize and quantify the performances of different swirl-separation tank designs using Star CCM+ Eulerian-Eulerian multiphase flow.

As the aerostructure lead for rocket fins, I led a team of 12 in designing, simulating, and manufacturing the largest rocket fins ever created for the University rocketry team MASA.

In just 3 months, we worked with our production manager, self-learned engineering drawings, coordinated with out-of-house manufacturers, and pushed out a flight-ready prototype. We are the first project within the entire team to have any hardware.

As a test engineer lead, I led a team of 6 in testing the above-mentioned fin assembly in the University's largest wind tunnel (5' by 7') at 120 mph wind speed. We were able to mathematically characterize the fins' stability correction by introducing rotational disturbances. In addition, we performed static structural tests on the entire assembly as well, where we compared our experimental conclusions with the simulated results from ANSYS.

I also single-handedly coded a custom CFD solver using MATLAB capable of solving lid-driven cavity flow up to a Reynolds number of 5000, including custom advanced features such as Gauss-Seidel iterative Poisson solver and multi-grid. The governing equation used here is incompressible Navier-Stokes.

I investigated our rocket's aerothermal performances at hypersonic regimes using ANSYS and STAR CCM+ high-fidelity simulations. I ran the model with the K-Omega turbulence model with a Y+ of 5.

I am very familiar with all RANS(k-e, k-o, and SA) and multiphase (VOF, E-E, E-L) models, but only some familiarity with LES.

I am an independent and self-starter. I self-learned CAD, ANSYS Fluent, and Star CCM+ during my sophomore year. This summer, I studied numerical engineering optimization during my internship break.

I also have an objective-oriented work style. I refuse to rest unless my daily goals are complete.

I graduated Magna Cum Laude as an undergrad from the University of Michigan Aerospace Engineering and am pursuing a Master's degree in aerospace with a particular focus on fluid flows.