

ANDI ZHOU

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Dear Hiring Manager at Ford Motor Company,

Having had the privilege to engage with Ford representatives on two separate occasions at the University of Michigan — once during the UMich engineering career fair and another time at Company Day — I was left with a profound appreciation for the camaraderie and approachability that seems intrinsic to Ford's ethos. My conversation with Mr. Anthony Ha, a Powertrain Supervisor, was particularly enlightening. His genuine warmth, willingness to share insights, and evident pride in Ford's work reinforced my belief in Ford as not just a pioneering automotive giant, but also as a nurturing environment for its workforce. This is what really compelled me to apply for the Thermal System Modeling engineer position at Ford Motor!

I'm aware that the position requires four years of experience with modeling software. While my timeline might seem shorter, the depth, intensity, and outcomes of my internships and project team experiences have equipped me with a skill set I am confident rivals that of many with more extended periods of exposure.

At Zoox, I revived a powertrain coolant system test stand that was stagnant for 2 years in just 9 weeks. This project sought to validate the 1D simulation previously conducted by our team. My design recommendations, based on my testing data, increased the system flow rate by 7.5%. My manager highlighted my fast-paced work ethic and emphasized that I produced more data in 9 weeks than the project had in the previous 2 years.

Further enriching my experience in CFD software are my internships at Volvo Truck North America, where I designed a swirl air-coolant separation tank using Star CCM+ multiphase flow, achieving a 99% air separation efficiency and reducing its mass by 40% compared to the original concept given.

To further my expertise in simulation, I implemented my own CFD solver for both Euler's equation of compressible flows and the incompressible Navier-Stokes equation. I firmly believe that as a thermo-fluid engineer specializing in simulation, it's crucial to peek into the black box of contemporary CFD software. In this project, I've implemented both the first and second-order finite volume methods, as well as the advanced Discontinuous Galerkin finite element method for both external and internal flows.

Ford's legacy in the automotive world is unparalleled, and the opportunity to merge this rich history with the electrifying potential of the future is thrilling. It is the blend of this legacy with the inclusive and supportive culture that makes Ford truly special to me.

Thank you for considering my application, and I cannot wait to hear back from the team!

Sincerely,

Andi Zhou