

ANDI ZHOU

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Dear Hiring Manager at MDA Canada,

I imagine you might find a few aspects of my resume intriguing: a Canadian citizen with U.S aerospace education but automotive internship experiences, and now applying back to Canada for an aerospace position?

From a young age, I aspired to be an aerospace engineer. This dream led me to obtain my pilot's license at 18 and relocate from Canada to the U.S. to further my aerospace studies, where I rose to aerothermal CFD lead for the university rocketry team, MASA. However, the barriers posed by ITAR regulations restricted me from venturing into the U.S aerospace sector. This forced me down the automotive path, and while I've had the privilege to intern at renowned firms such as Volvo and Zoox, every night, I find myself asking the same question: is automotive really what I want to do?

And here I am, really excited as I send out my first aerospace application as a thermal analysis student engineer at MDA. Although the majority of my experience lies in a different industry, the fundamental laws of heat transfer remain universal. I am convinced that the rigorous, fast-paced, and detailed engineering acumen I have developed in the automotive realm will serve as an asset in spacecraft thermal analysis.

At Zoox, I revived a cooling system test rig that was stagnant for 2 years in just 9 weeks. My design recommendations, based on test 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. Meanwhile, at Volvo Truck, I designed a swirl air-coolant separation tank using Star CCM+, achieving a 99% separation efficiency and reducing its mass by 40% compared to the original concept.

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 thermal engineer specializing in simulation analysis, 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.

From the first Canadarm to modern day Lunar settlement, MDA is without a doubt the absolute industry leader in space systems. As the world moves into a new space age, and as humanity prepares to return to the Moon, there is no better time to make an impact on the world as an aerospace engineer! I am eager to join MDA on this journey.

Thank you for your consideration.

Sincerely,

Andi Zhou