

ANDI ZHOU

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Dear Hiring Manager at Ciena,

My enthusiasm for Ciena's mission is fueled by an unrelenting passion for solving increasingly complex challenges. Throughout my academic journey in aerospace and my internship experience in the automotive realm, I have come to a profound appreciation for thermal engineers' diverse challenges and applications, from aircraft to automobiles and down to every chip inside our daily electronics and network.

Optical networks require the utmost state-of-the-art thermal solutions, perhaps even more so than the aerospace and automotive industries. As the world grows more interconnected each day, ensuring peak network performance is an interesting yet critical challenge that needs to be tackled. I am confident that my unique blend of experience in hands-on thermal testing and simulation across different engineering disciplines not only underscores my adaptability in learning but also amplifies my capacity to bring innovative and effective thermal solutions to Ciena.

At Zoox, I built and operated a powertrain cooling system test rig. Based on experimental data collected from my test plans, I not only validated the 1D simulation conducted previously by my team, but also made design recommendations which increased the system performance 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 my university rocketry team MASA, I conducted conjugate heat transfer simulation using ANSYS Fluent, where I investigated our rocket fins' aerothermodynamics properties at a blazingly fast Mach 4.49 and ensured that our aero-thermal safety factor is kept at a reassuring 2.

To further my expertise in fluid simulations, I implemented my own CFD solver for the inviscid Navier-Stokes equation. I firmly believe that as a thermal engineer, it is crucial to peek into the black box of contemporary CFD software. In this project, I have implemented both the first and second-order finite volume methods, as well as my own adaptive meshing algorithm for an optimized computation.

As we venture into a period marked by unprecedented levels of data consumption, the demand for a dependable network infrastructure becomes ever more critical. I am convinced that my hands-on experience in thermal testing and validation, coupled with extensive work in CFD simulation, positions me as a valuable addition to the thermal team at Ciena.

Thank you for your consideration, I have attached my engineering portfolio which provides a pictorial description of all my projects mentioned above!

Sincerely,

Andi Zhou