Bryce Mazurowski

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Dear ATA Engineering Hiring Team,

I was excited to see the engineering openings for at ATA Engineering while browsing the company website. I recently had a meeting discussing the type of work, company structure, and career opportuities at ATA with Eric Blades. I have been fully focused on the research and development of computational methods to solve engineering problems as I worked towards completing my MS and PhD at the University of Illinois. Focusing on fracture in anisotropic materials and multiscale modeling of damage in composite materials, I think I would be a great fit for the Composite Materials Analysis Engineer.

I have greatly enjoyed my time learning and creating at the University of Illinois. The work has been an engaging mix of reading papers, thinking through problems, writing out the math, planning out algorithms, and implementing them. I have spent plenty of time focusing on the math and physics that apply to these engineering problems, while also dedicating considerable effort to developing clean, safe, and efficient software to solve problems. I am looking to take a next step in my career that is at the cutting edge, but more applied to real engineering problems.

Since starting my Masters research at the University of Illinois, I have been working on projects motivated by high speed aircraft. I have applied considerable focus to anisotropic and composite material behavior, particularly on woven ceramic matrix composites. I have done detailed structural analysis in commercial softwares on a wide range of problems. A main part of my PhD research was testing available damage models to capture CMC behavior. This led to the implementation of a damage model from the literature as an Abaqus UMAT. I have also spent considerable time doing research in fracture mechanics of anisotropic materials. Fracture mechanics is where I started my research journey and an area I love working in. Whether one is analyzing a metal or composite structure, fracture is an important phenmenon to capture. My research work at the Universtity of Illinois and at Boeing Research & Technology has allowed me to develop a skillset and know-how that would be a great fit at ATA Engineering.

After chatting with Eric Blades, I have gotten a good feel for the work ATA Engineering does. The types of challenges that ATA is solving sound exciting. I have also interfaced with a numnber of ATA Engineers at conferences and meetings for the AFRL research center I was a part of while at the University of Illinois. The level of knowledge and detail always struck me as impressive. I also always enjoyed how applied to work was, solving cutting-edge problems using practical analysis methods and coming up with useful answers.

My passion and skill set align with ATA Engineering's mission to solve the toughest analysis problems in aerospace and defense using cutting-edge analysis and design. My experience and proven ability to perform computational engineering research make this a position I would excel in. I would appreciate the opportunity to explore this opening further with you.

Sincerely,

Bryce Mazurowski