Nathan Ryan

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# Dear Hiring Manager,

I am writing to express my interest in the Nuclear Energy Commercialization Analyst position at the Breakthrough Institute. As a graduate student in Nuclear, Plasma, and Radiological Engineering at the University of Illinois Urbana-Champaign, I have cultivated an understanding of nuclear energy technology, regulation, and policy, combined with a passion for advancing the commercialization of innovative nuclear solutions. I am eager to contribute to Breakthrough’s mission of right-sizing licensing and regulatory frameworks while advocating for the safe deployment of new nuclear technologies to enhance the clean energy transition.

Throughout my academic career, I have gained expertise in nuclear fuel cycle analysis, advanced reactor technologies, and energy systems modeling. I have also contributed to critical research evaluating the economic and environmental implications of nuclear energy transitions, such as evaluating the feasibility of TRISO-fueled reactors and conducting economic impact assessments of potential nuclear plant closures in Illinois. This work has provided me with an understanding of the regulatory, economic, and political challenges that must be navigated to successfully deploy new nuclear technologies.

Additionally, I have experience in policy advocacy and regulatory proceedings. In my role as a delegate with the Nuclear Engineering Student Delegation (NESD), I helped draft policy recommendations that supported nuclear science research and advocated for increased investment in nuclear energy innovation. I have also worked directly with state-level clean energy legislation efforts in Illinois, which included policy outreach, and stakeholder engagement. These experiences have equipped me with the skills to engage with industry stakeholders, government agencies, and policymakers—key components of the commercialization efforts outlined in this role.

I am particularly excited about the opportunity to contribute to the economic and regulatory aspects of nuclear energy commercialization at Breakthrough. My experience in quantitative modeling and analysis makes me well-suited to support the development of business strategies and models for nuclear deployment. Moreover, I am highly motivated to contribute to Breakthrough’s work in advancing clean, firm, and reliable electricity generation, which is critical for meeting both current and future energy demands. Thank you for considering my application. Please find my resume and writing sample attached for your review.

Best regards,

Nathan Ryan