Nathan Ryan

708-567-0002 | nathanryan.nuc@gmail.com | Urbana, IL, USA |https://nsryan.github.io/

# Dear Hiring Manager,

I am writing to express my interest in the Nuclear Energy Innovation 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 developed a strong background in nuclear energy technology and policy, and I am eager to contribute my skills and research experience to further Breakthrough’s mission of driving innovative solutions for environmental and human development challenges.

Throughout my academic and research career, I have focused on nuclear fuel cycle simulation, energy systems modeling, and nuclear energy policy—particularly in the context of advanced reactors and the integration of new technologies. My work at the University of Illinois has provided me with hands-on experience in nuclear fuel cycles analysis and policy, particularly evaluating the transition from traditional light-water reactor systems to include advanced reactor technologies such as TRISO-fueled systems. I have also contributed to the Illinois Hydrogen Hub application, providing critical modeling of hydrogen fuel opportunities, and I actively engage in discussions surrounding nuclear policy and energy regulation. I am particularly passionate about creating sustainable energy solutions, which aligns with Breakthrough’s commitment to advancing realistic, technology-centered research.

In addition to my research, I have honed my skills in public engagement and policy advocacy through leadership roles in organizations such as the American Nuclear Society and the Nuclear Engineering Student Delegation. I have worked on drafting policy statements to advocate for nuclear science research funding, organizing events that address the needs of former coal communities, and managing outreach efforts for clean energy legislation in Illinois. These experiences have strengthened my ability to communicate complex technical concepts to diverse audiences, from policymakers to the public, and I would bring this experience to routinely contributing to various publications from the institute.

I am excited about the opportunity to collaborate with teams across Breakthrough’s research areas to advance nuclear energy by applying lessons learned from other clean energy fields while engaging with critical policy and regulatory discussions. Thank you for considering my application. I look forward to the possibility of discussing how my experiences and skills can support Breakthrough’s work.

Best regards,

Nathan Ryan