Nathan Ryan

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Dear Hiring Manager,

I am writing to express my interest in the Energy Systems Engineer position within the Decision and Infrastructure Sciences Division at Argonne National Laboratory. With a strong background in energy systems engineering and advanced modeling techniques, I am eager to contribute to Argonne's mission of analyzing and improving the security, reliability, and resilience of energy systems. My experience in electric power systems (on and off the meter), optimization, and data analysis, combined with my technical programming skills, positions me well to support Argonne’s energy resilience projects.

At the University of Illinois and during my internship at Oak Ridge National Laboratory, I worked on modeling advanced nuclear reactors and integrated energy systems, focusing on understanding the interdependencies among various infrastructure components. Additionally, my work involved large-scale data analysis, where I utilized Python, C++, and SQL to manage and analyze energy system data, supporting decision-making for system optimization and planning.

The opportunity to contribute to Argonne’s work on grid security and resilience is particularly exciting to me. I am well-versed in using single and multi-objective optimization techniques and modeling tools to analyze energy systems, and I am eager to apply these skills to evaluate the resilience of the electric grid and related infrastructure. My background in computational tools like TEMOA, Cyclus, and Py-Torch has equipped me to build robust models that simulate the behavior of complex energy systems. I am particularly interested in using these models to explore strategies for enhancing grid resilience with including climate change and ensuring that energy systems remain reliable under challenging conditions.

What excites me most about this opportunity is the ability to contribute to projects that directly impact the resilience and security of critical energy infrastructure. I am drawn to Argonne’s collaborative environment and the opportunity to engage with federal and industry stakeholders in support of energy resilience efforts. I am confident that my experience and technical skills will allow me to make meaningful contributions to Argonne’s energy systems engineering projects. I look forward to the opportunity to discuss how my expertise can support the important work being done within the Decision and Infrastructure Sciences Division.

Best regards,

Nathan Ryan