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To Whom It May Concern at Pacific Northwest National Laboratory,

I am writing to express my interest in the National Security Internship Program (NSIP) Undergraduate Technical Intern – AI & Data Analytics position at Pacific Northwest National Laboratory (PNNL). As a Computer Science major at Georgia Tech concentrating in Artificial Intelligence and Theoretical Computer Science, I am eager to contribute my skills in AI and data science to support national security research at PNNL.

My research and industry experience have strengthened my ability to develop AI-driven solutions for complex challenges. I developed an ML model achieving 85% accuracy for Parkinson's diagnosis, which involved feature engineering, model optimization, and working with noisy medical datasets, all of which are skills directly applicable to AI applications in national security. Additionally, I contribute to research on inverse reinforcement learning at the BRAINML computational neuroscience lab, where I analyze human decision-making processes, a field with potential applications in security and intelligence analysis.

My industry experience further reinforces my ability to work on large-scale, impactful projects directly relevant to this position. As a Software Engineer Intern at Amazon Web Services (AWS), I worked on the Cryptography Key Management Services team, where I developed automated security workflows and control plane APIs to enhance cloud security infrastructure. These experiences provided me with a deep understanding of secure data management and cryptographic principles, which are essential for protecting sensitive national security data. At Wabtec Corporation, I optimized data processing pipelines and implemented machine learning models to improve locomotive equipment inspection, enhancing operational efficiency by over 200%. This experience honed my ability to work with large datasets and develop AI-driven solutions that can improve security and operational effectiveness, both of which are critical aspects of PNNL's AI and data analytics initiatives.

PNNL's mission to advance national security through scientific innovation aligns with my passion for applying AI and data analytics to real-world problems. My experience in AI-driven research and secure, scalable software development positions me well to contribute to the lab's initiatives. I appreciate your time and consideration and look forward to the opportunity to discuss how my skills can support PNNL's mission.

Sincerely,
Erik Li