COVER LETTER

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Hiring Manager
Exegy, Inc.

Dear Hiring Manager,

I am writing to express my enthusiastic interest in the Software Engineer Intern position at Exegy, as advertised on Handshake. As a Master's student in Computer Science at Washington University in St. Louis with hands-on experience in software development, machine learning, and a strong foundation in Python, C++, and Linux environments, I am confident that I possess the skills and eagerness to contribute effectively to your Engineering organization.

My project experience demonstrates my ability to tackle complex technical challenges and develop robust software solutions. For example, in my "Datacenter Cooling Optimization" project, I implemented multiple Deep Reinforcement Learning algorithms (including DDQN and PPO) in Python, integrating them with EnergyPlus simulations running in a Linux-based environment. This work resulted in a significant energy efficiency improvement of up to 35.8%, showcasing my ability to optimize system performance and stability. Furthermore, my experience developing AI agents for games like Connect 4 (using C++ and Java with alpha-beta pruning) and Lost Cities highlights my proficiency in algorithmic development and achieving measurable success (100% and 73% win rates respectively in simulations). My development of a real-time "Socket.IO Multi-Room Chat Application" using Node.js further demonstrates my capability with communication frameworks relevant to SDK development.

Beyond core programming, my background includes experience across the software development lifecycle. In my "Multimodal Prediction of Alzheimer's Disease" research, I not only implemented deep learning (CNNs with TensorFlow/Keras) and machine learning (XGBoost/Scikit-learn) models but also rigorously documented the project in NeurIPS format, emphasizing clear communication and comprehensive evaluation. As a Data Analyst Intern at Lab714, I engineered software using React and AWS to process IoT data, contributing to a 20% reduction in operating costs for clients and gaining experience with cloud technologies. These experiences, combined with my coursework in areas like AI, Deep Learning, and Software Development, have equipped me with strong problem-solving skills and the ability to collaborate effectively within a team, as evidenced by my numerous leadership roles detailed in my CV.

I am particularly drawn to Exegy's position as a leader in intelligent market data and high-performance trading systems. I am eager to learn about the trading systems domain, contribute to performance testing and feature improvements, and apply my skills to the challenges of developing low-latency technology solutions. My strong interest in systems-level programming and hardware/software integration aligns well with the requirements of this role.

Thank you for considering my application. I welcome the opportunity to discuss how my skills and enthusiasm can benefit Exegy. I am available for an interview at your earliest convenience.

Sincerely,

Aadarsha Gopala Reddy